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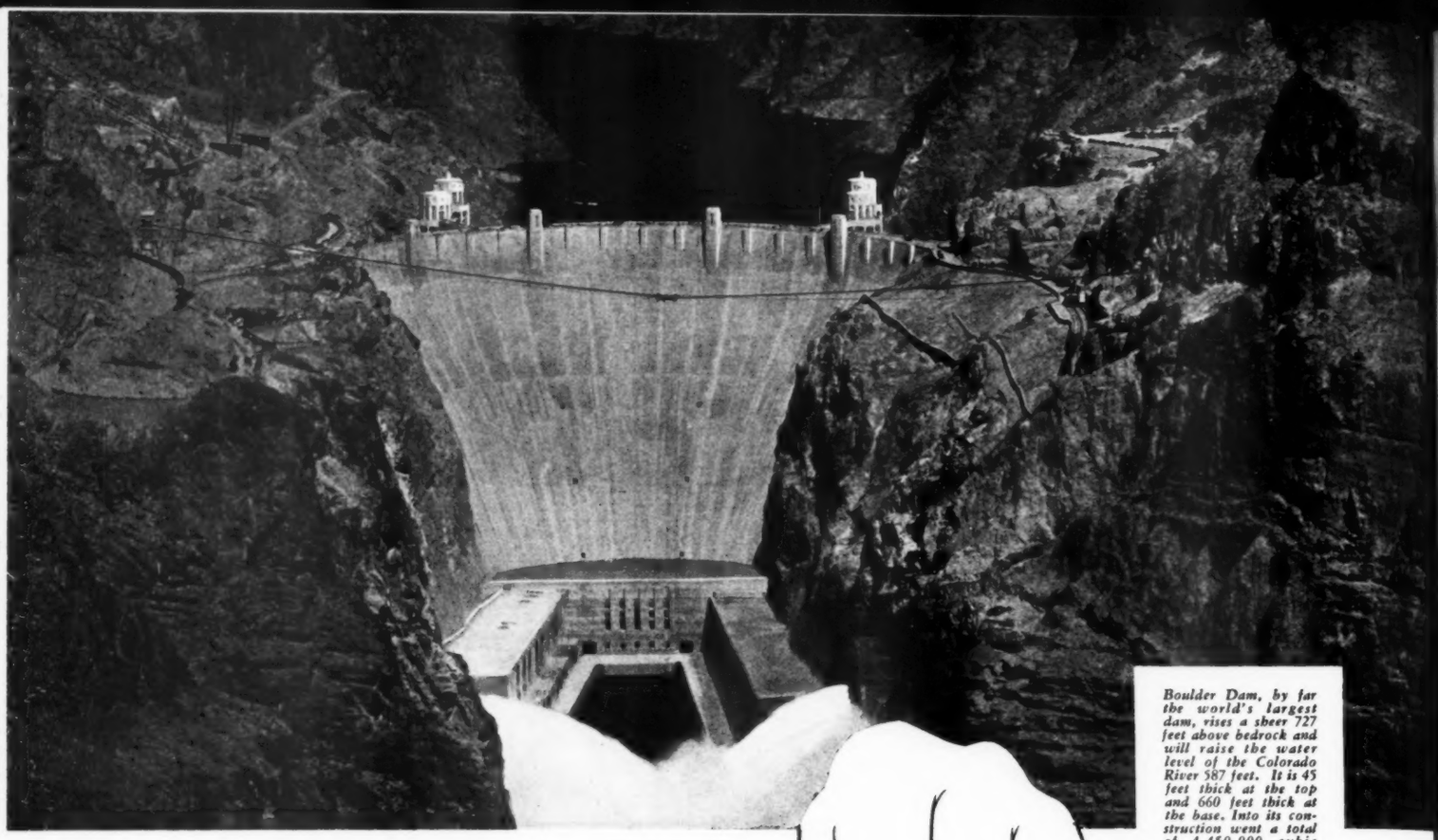

Boulder Dam, by far the world's largest dam, rises a sheer 727 feet above bedrock and will raise the water level of the Colorado River 587 feet. It is 45 feet thick at the top and 660 feet thick at the base. Into its construction went a total of 4,450,000 cubic yards of concrete and over 203,000,000 lbs. of metal. Photo courtesy of Union Pacific.

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Anticipate Leveling Off in April Output

ALTHOUGH the last full week in March brought a reversal in the upward trend in crude oil production, April will start off with output at a higher level than at the beginning of any previous month. A week ago it was thought, due to the substantial decline in Texas output for April projected by the state railroad commission that a decline in national output was in prospect. This development, which many economists of the industry believe desirable, is now not so certain of accomplishment.

California stepped up its April allowable over March more than 50,000 barrels daily. Kansas authorized a small increase and the other states in most cases will continue their March allowables. For the six principal oil-producing states the April daily allowables are as follows: Texas, 1,348,964 barrels; Oklahoma, 620,460 barrels; California, 603,000 barrels; Kansas, 190,200 barrels; Louisiana, 235,675 barrels; New Mexico, 102,155 barrels. These total 3,100,454 barrels daily which is 5,257 barrels more than the allowables of the same states at the start of March. At the middle of March Texas increased its allowable an additional 32,455 barrels daily, which means that the April allowables are 27,000 barrels less than those in effect the second half of March.

Those most familiar with conditions believe that the sharp gain in crude output has ended and there will be leveling off during April, with total production for the month about the same as it was in March. They point out that the Bureau of Mines estimates demand for April crude will be 84,000 barrels greater than in March. While little attention has been paid to the bureau's recommendations in recent months, this April estimate is discussed as indicating the actual demand for crude oil will be greater than it was in March. With little or no increase in total production the conclusion is reached that for the country as a whole additions to crude stocks will end in April bringing a return to what is considered a healthy relationship between supply and demand.

Production 3,434,875

Decrease 21,296

For the first time in many months Louisiana's April output probably will be in line with the bureau's estimated demand. This reflects a change in a situation extending over a year and a half in which owing to expanding production in Gulf Coast fields and Rodessa, Louisiana, production ran far ahead of estimated markets. The state is now enforcing a conservation program, and regardless of estimated demands will keep production around present levels.

Due to a seasonal increase in shipments, supplemented by interrefinery purchases, the gasoline market tone showed further improvement over the past week. Several refiners who had spot gasoline that they were anxious to move are now sold up for the next 30 to 60 days.

Daily Average Production for Week

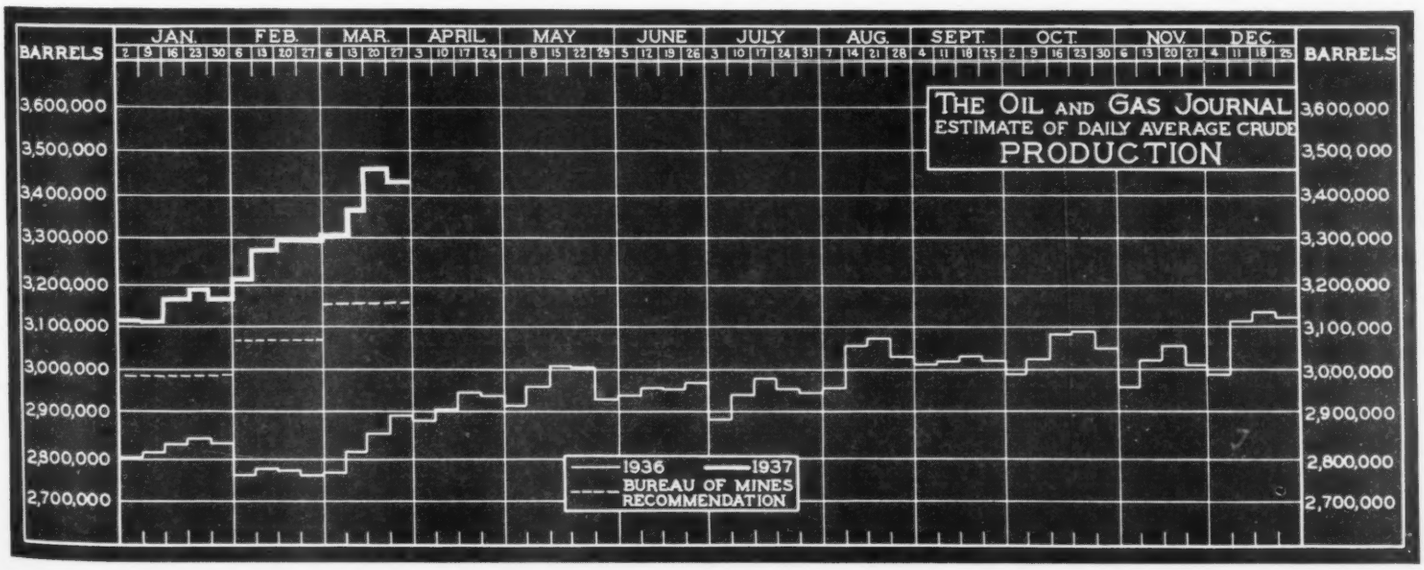
	Mar. 27, 1937	Bur. Mines Mar. est.	Mar. state allowable	Mar. 20, 1937
Oklahoma City	150,000	.....	.....	155,250
Seminole-St. Louis	89,625	.....	.....	88,000
Remainder of State	400,200	.....	.....	414,200
Total Oklahoma	640,625	590,700	620,460	657,450
East Texas	459,467	.....	.....	459,187
West Texas	208,095	.....	.....	208,050
North Central Texas	101,447	.....	.....	100,650
Texas Panhandle	81,750	.....	.....	82,697
East Central Texas	124,042	.....	.....	122,389
Gulf Coast—Texas	334,538	.....	.....	335,283
Southwest Texas	108,189	.....	.....	106,945
Total Texas	1,417,528	1,256,600	1,430,969	1,415,201
North Louisiana	70,315	.....	.....	68,272
Gulf Coast—Louisiana	175,850	.....	.....	178,000
Total Louisiana	246,165	240,000	236,000	246,272
Santa Fe Springs	44,650	.....	.....	44,700
Long Beach	61,500	.....	.....	61,150
Kettleman Hills	78,500	.....	.....	77,800
Remainder of State	404,600	.....	.....	408,600
Total California	589,250	570,900	*551,100	592,250
Kansas	186,650	178,000	186,968	188,325
Arkansas	27,700	28,500	.....	27,135
Eastern Fields	114,000	114,700	.....	114,250
Michigan	39,267	30,300	.....	37,978
Southeastern New Mexico	102,170	87,150	102,155	102,130
Rocky Mountain area	71,520	62,150	.....	75,180
Total United States	3,434,875	3,159,000	.....	3,456,171

*Recommendation of Central Committee of California Oil Producers.

Crude Oil Stocks in United States

(BUREAU OF MINES ESTIMATES)

Week ending March 13, 1937	290,613,000
Week ending March 6, 1937	289,611,000
Week ending March 14, 1936	311,886,000



Oil Industry Labor Record Minimizes Union Efforts

By H. STANLEY NORMAN

NEW YORK, March 29.—Executives of the nation's leading oil companies are not disturbed by the declared purpose of the Committee for Industrial Organization (C. I. O.) to establish itself as the sole bargaining agency in the petroleum industry.

In broad terms and with allowance for special cases, managements of companies have confidence in their individual abilities to maintain their previously uninterrupted harmony with labor. Their assurance is based on the industry's past and present wage payments appreciably above scales paid in similar enterprises and in the liberal policies in other employe relationships fundamentally a part of the oil business.

From the lowest brackets of refinery shift workers and field repair gangs up through the executive branches, the present and past harmonious relationships are relied upon to carry through the "critical" period, without resorting to policies and tactics which have recently beset the automobile industry.

The next important step in the plans to unionize the oil business will take place at Houston, April 5, at a meeting of the executive council of the International Association of Oil Field, Gas Well and Refinery Workers of America, the C.I.O.'s representation in the oil industry. Harvey C. Fremming, president of the oil union, at that time will present a plan of action which, it is understood, has been approved by C.I.O. officials.

The details of this plan, which may be changed by the executive committee, have not been announced. There have been rumors it called for action along lines used by C.I.O. unit in the automobile industry. It is generally believed less dramatic and coercive methods are under consideration.

The oil union so far has accomplished its ends with no sit-down strikes and few strikes of any kind. Its policy has been to enter into negotiations with a management after a local organization has been perfected without interfering with field or refinery operations. Union organizers have been active for several weeks in the Gulf Coast refinery area, the East Texas field and scattered points in other areas, including California. How successful these efforts have been is not accurately known.

Wage increases granted by several large companies during the past two weeks are said by the companies to be based entirely on 1936 earnings and almost certain prospects for 1937.

"It is a matter of record," one executive explained, "that the oil industry in general is probably the most liberal in passing on business improvement benefits to its employes and stockholders. In view of improvement in 1936 and reasonably certain indications for continuation in 1937, the wage increases appear to be the result of recognizing loyal efforts on the part of employes. Most certainly this is true with regard to our company," he concluded.

A similar note was sounded by D. A. Little, president of Magnolia Petroleum Co., who announced a wage increase of approximately 7 cents per hour for 11,000 employes (whose annual income is less than $5,000 annually) of Magnolia Pipe Line Co. The Magnolia companies' wage increase is retroactive to March 15.

"This upward adjustment for employes," said Mr. Little, "simply follows a practice our companies have observed for more than 25 years of adjusting wages and salaries as conditions would permit. The general outlook shows some improvement and this present adjustment made voluntarily is a recognition of the loyalty, faithful work and cooperation of our more than 11,000 employes."

Pure Oil Co. raised the pay of 600 employes at its Smith's Bluff, Texas, refinery approximately 6 per cent, effective April 1, and its field employes in Texas and Louisiana are to get a similar increase, effective the same date.

Gulf Oil Corp. raised wages 4 to 9 cents per hour in its field and pipe line operating departments and Gulf Refining Co. instituted a similar increase at its Port Arthur, Texas, plant.

Standard Oil Co. of California on April 1 will make a general wage and salary increase supplementing an increase effective last November. In the northeastern district, Standard Oil Co. of New Jersey raised wages of 6,500 employes 10 cents per hour at Bayonne, Linden and Jersey City and Tide Water Associated Oil Co. granted a

—Harris & Ewing.

Edward F. McGrady, Assistant Secretary of Labor

Born in Jersey City 64 years ago. Graduated from English High School, Boston, Mass., where he studied economics. He then sold newspapers, later becoming a newspaper pressman. Elected head of newspaper pressman's union, then head of central labor union, Massachusetts Federation of Labor. Served in Massachusetts legislature.

In 1919, Samuel Gompers hired him as the A.F. of L. lobbyist at Washington. He served for 14 years until 1933. He led the movement for enactment of Norris-LaGuardia anti-injunction act, and was prominent in defeating nomination of Judge John J. Parker to the Supreme Court. George L. Berry, national president of the union, now Coordinator for Industrial Cooperation, made Mr. McGrady a national organizer, and introduced him to then Assistant Secretary of Navy—Franklin D. Roosevelt. He was made assistant NRA administrator. When Mr. McGrady persuaded the miners who were holding "captive mine," in Pennsylvania to call off a strike by promising them the "President intends you shall get a square deal," he was named Assistant Secretary of Labor.

—Harris & Ewing.

Where the solution of labor problems centers—Department of Labor Building, Washington, D. C.

similar raise at Bayonne refinery. Standard of New Jersey's announcement said there will be an adjustment in pay of salaried employes.

While the wage increases are tangible and provide greater purchasing power immediately, of probably greater ultimate value is the almost uniform practice, especially among the larger companies, of providing insurance, stock purchasing plans or some form of profit sharing arrangements. Through one of various mediums, the large companies have provided means of creating estates by salaried employes with the company contributing, usually on equal basis with its employes. Due to the turnover in certain branches of work, the stock purchase plans and insurance participation were usually restricted to certain groups not otherwise protected. In the case of laborers, the protection was usually extended in the form of group insurance and compensation policies. It may be significant that none of the companies granting voluntary wage increases has dealt in this matter with representatives of the International Association of Oil Field, Gas Well and Refinery Workers of America, the C.I.O. affiliate.

Whether intentional or not, the inference remains that employes are in better position to negotiate for and receive wage scale adjustments almost immediately on determination of improved conditions. On the other hand, the inference is equally unmistakable that employes bargaining through an outside organization and through contracts running for stipulated intervals have little chance of changing their status until a new agreement comes up for consideration.

Company Representation

No company is risking future repercussions by openly or indirectly attempting to influence its employes in selecting a bargaining medium, but the fact dealing with committees of company employes is desirable is an open secret. Companies frankly feel the "check off" system actually constitutes a penalty on wages unnecessary to attain the advantages of collective bargaining. Furthermore, the intrusion of outsiders into the relationship between management and employes is frankly distasteful to executives heading most companies.

The fact production operations are scattered over 13 states, refining operations over 27 states, pipe line workers over 30 or more states with marketing operations distributed in 48 states and the District of Columbia, presents an entirely new organization handicap to C.I.O. So far in its drive for mass organization of industrial workers, C.I.O.'s efforts have been directed to the thickly populated centers in which workers live. Only a minor percentage of the industry's employes live under conditions most adaptable to C.I.O.'s organization methods and this alone is relied upon heavily by oil executives to maintain a majority of employe bargaining on a strictly inter-industry basis.

75,000 Members

It is currently estimated by the U. S. Department of Labor that the International Association of Oil Field, Gas Well and Refinery Workers of America is the bargaining agency for about 75,000 men in the oil industry, scattered in various parts of the country and in the several branches. It is also estimated the oil industry employs approximately 1,010,000 men in clerical and operating capacities, although a few thousand are indirectly employed at garage retail outlets and at gas pumps operated as a side line, or in conjunction with community stores and accessory departments. The total payroll is calculated at approximately $1,300,000,000 annually, including wholesale and retail marketing divisions, which incidentally engage more than 70 per cent of the total employes.

The drilling and producing division, including natural gasoline operations, is estimated to engage 155,000 with an annual payroll of about $230,000,000. The pipe line division employs about 25,200 with an annual payroll of approximately $38,000,000. The refining division engages roughly 110,000 with an annual payroll of $160,250,000, exclusive of temporary employment afforded by construction projects. The marketing division affords employment for about 725,000 with 575,000 in the retail branch and total payroll is about $792,000,000. The organization problem is most clearly reflected by the marketing division which engages the greatest number of men and has the largest payroll. It is widely deployed throughout the nation and under the so-called Iowa plan of marketing, is broken down into small units. Individual station operators would be much less tolerant of labor interference than large units with huge investments to protect.

Although the oil union has had a hundred-fold increase in membership since 1933, the fact it is the bargaining agency for no more than 75,000 or 80,000 out of more than 1,000,000 is evidence considerable remains to be done.

The International Association of Oil Field, Gas Well and Refinery Workers of America was chartered by the American Federation of Labor in 1918. It developed from independent local unions on the Pacific and Gulf coasts. A membership of 24,800 was attained in 1921, but a subsequent sharp decline reduced it to inferior consideration until 1933 when a vigorous drive was launched reaching full momentum at a convention in 1934.

The collective agreement between the Sinclair companies (Sinclair Refining Co., Sinclair Prairie Oil Co., and Sinclair Prairie Oil Marketing Co.,) and the union first entered into under N.R.A. in 1934 is unique in that it is a company agreement negotiated on a national rather than a local basis. In addition to the Sinclair agreement, the union is the bargaining medium for 6 Cities Service plants, 5 Shell plants, 2 Standard subsidiaries, 7 Texas Co. plants and 3 Pure Oil Co. plants, as well as several independents.

Features of Agreement

Since the Sinclair agreement is particularly significant due to its national scope, it was selected for detailed description by the Department of Labor. Its principal features follow:

"Seniority—Adherence to seniority as a determining factor in movements of personnel is the most important feature of this and other agreements in the petroleum industry. In the earlier agreements signed in 1934, the seniority principle was endorsed in general terms, but the current agreements define in detail workers' and employers' rights and correlative duties under the application of seniority rules. Both service and department seniority accrue to employes of the company. Entrance to employment is generally through the labor or yard department, workers progressing therefrom to higher classifications in the specialized departments of the plant. Service seniority dates from the first day of employment with the company and entitles the worker to claim a job over his juniors in the labor department if he is laid off in one of the specialized departments. Department seniority, of course, begins on the date of promotion to a specialized department. A worker transferring from one department to another accumulates seniority in the new department separately from that which he holds by virtue of his former job. Thus a worker may have seniority standings in one or more departments as well as service seniority entitling him to return to the labor department, as long as he does not displace an employe with a longer record of service with the company.

"All seniority lists must be kept up to date and must be available to any employe or to the union

(Continued on Page 18)

Today's East Texas Problems Analyzed in Survey of Field

By MITCHELL TUCKER

The East Texas field in review as it continues to expand in its sixth year of producing life indicates its immensity by the fact that it excells all other fields in all important respects. It is the greatest from the standpoint of area, now comprising over 133,000 producing acres; greatest from standpoint of number of producing wells, now totaling 22,328; greatest in daily production, now having daily allowable of 455,500 bbls; greatest from standpoint of accumulated production, which has now reached 1,083,827,490 bbls.; and the greatest from point of remaining reserves, as total ultimate recovery is estimated to be in the neighborhood of 4,000,000,000 bbls. under proper operating conditions. The accompanying tables set out all pertinent data from the field as of most recent check.

Present Problems

The major problems before operators there today may be grouped as follows: (1) mechanical lifting, (2) salt water production and disposal. (3) volumetric withdrawals and maintenance of allowables, and (5) changing conditions in the natural gasoline situation.

Mechanical Lifting

The extent of this problem varies widely with different operators in accordance with the location of their properties. Certain large operators having the bulk of their production along the "fairway" have not as yet been forced to give much consideration to this phase of operations, while to those others less fortunately situated, mechanical lifting is their major problem.

During 1936 East Texas wells were forced to resort to some form of mechanical lifting at the rate of about 100 per month, and at the present time there are approximately 3,500 wells either pumping, agitating or flowing by gas lift. In addition, there are approximately 2,100 wells now equipped with standby equipment for pumping service when needed. Also, most of the portable or stationary compressor stations throughout the field for gas lifting purposes have available capacity to handle more wells when needed.

PRODUCING WELL OWNERSHIP, AREA, AND ACRES PER WELL—EAST TEXAS FIELD

Operators—	Producing acres	Producing wells	No. acres per well
Humble Oil & Refining Co.	14,745	2,192	6.7
Gulf Refining Co.	8,790	1,269	6.9
Atlantic Oil	6,498	1,105	5.8
Magnolia Petroleum Co.	7,587	1,100	6.8
Stanolind Oil & Gas	7,410	1,066	6.9
Sinclair Prairie	6,783	977	6.9
Tide Water Associated Oil	4,883	784	6.2
Sun Oil	5,969	783	7.6
Shell Petroleum Co.	4,341	716	6.0
Ohio Oil Company	4,873	565	8.6
Arkansas Fuel Oil Co.	2,996	509	5.8
The Texas Co.	3,300	453	7.2
Hunt Production Co.	1,821	270	6.7
Empire Oil & Refining	1,248	215	5.8
Amerada Petroleum Co.	1,127	160	7.0
Barnsdall Oil Co.	655	86	7.6
Houston Oil	491	72	6.8
British American	335	57	5.8
Petroleum of Venz.	258	31	8.3
Continental	168	18	9.3
Total, Major Operators (20)	84,278	12,426	6.7
Total, Independents (1090)	48,722	9,916	4.9
Total and Average, Entire Field	133,000	22,342	5.9

Types of pumping equipment vary widely from the most up-to-date standard rigs to a complete variety of multiple pumping devices. The same is true of transmission equipment and power facilities. According to recent survey of pumping installations (either operating or standby), there were approximately 1,290 standard rigs, 1,312 pumping units, 1,124 wells operating on some form of back side cranking, and over 2,100 wells equipped to pump by 281 powers of various types and capacities.

Certain operators are widely expanding their use of gas lifting. Generally speaking, those companies which are connected to compression gasoline plants, and equipped to utilize the enriched residue after recycling, are becoming extensive users of gas lift. Those operators not so equipped must look at the problem from a different angle, and some of them are employing the method by the use of portable or small one-unit compressor stations.

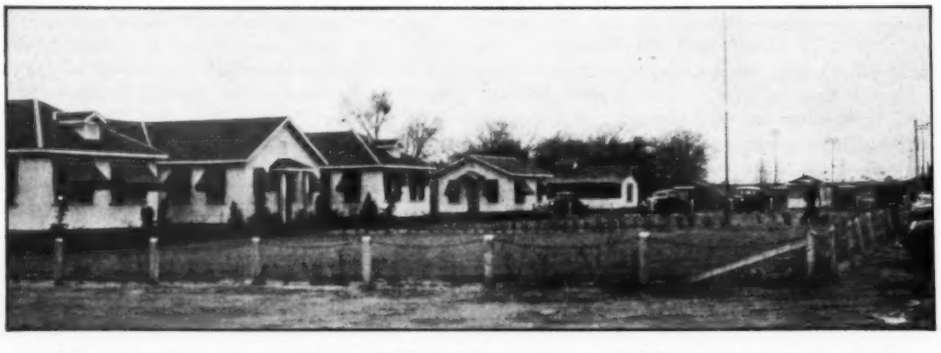
The shallow depth in East Texas greatly reduces the lift problem, and the main point of consideration is how to operate most economically these many thousand wells under artificial producing conditions.

Salt Water

The Texas Railroad Commission engineers make a quarterly survey of salt water production in the field. If anything, the survey has always been regarded as conservative, as it is practically impossible to account for every well in the field during the short time allotted for the investigation. Their estimated daily salt water production for quarterly periods last year were as follows:

April, 1936	20,577 Bbls.
July, 1936	26,000
Oct. 1936	42,000
Jan. 1, 1937	46,250

Here is indicated over a 100 per cent increase in daily salt water production in less than one year. As volumetric withdrawal, and not oil withdrawal, affects reservoir pressure in this type field, the desirability of reducing this salt water production is squarely before all operators, and to many it is the major problem today. The problem of disposal is not so keen just now as that of reduc-



Administrative offices of Texas Railroad Commission at Kilgore, East Texas field

—Ward, Gladewate

FOREST OF DERRICKS—*Piney woods displaced east of Gladewater in the East Texas field*

ing reservoir withdrawal, and checking declining pressure.

For the monthly period February 12 to March 12, the loss of pressure indicated by survey from 34 key wells was .0626 pounds for each million barrels allowable. Average pressure for the check on March 12 was 1,170.47 pounds, with a minimum of 918 pounds, and maximum of 1,298 pounds. Recognizing the widely varying conditions throughout this vast field, the Railroad Commission engineers have raised the total number of key wells for practical bottom-hole pressure survey from 34 to 100, and hereafter it is thought the survey will be more representative, and afford more detailed check at different critical points.

Considerable research has been done through cooperative projects sponsored by several major companies in the field on the feasibility of returning water to the Woodbine sand in the form of hydraulic repressuring. Details of this study have not been made public due to the fact that all companies did not participate in the expense of the project. It was tentatively announced that the Railroad Commission would ask for a discussion of this problem at the April state-wide hearing last week, but those operating companies interested asked for a further delay.

Generally speaking, the research and experimentation done in this direction was successful. First difficulty was encountered in treating the input water to remove the fungus growth created by the germ infected fluid. After considerable expensive experimentation, processes have been developed for handling the water at a cost of about $1.00 per 1,000 bbls., which is not considered excessive. Experimental injection work included putting water back into the Woodbine at the rate of 2,000 bbls. per day, then 4,000, then 6,000 and then 8,000 bbls. per day. Formation quit taking water as soon as the 8,000-bbl. rate was established, but by maintaining proper pressure it was found the formation would take uniformly about 6,000 bbls. per day through one well. A total of about 500,000 bbls. was put back into one experimental well.

The active reconditioning and plugback campaign now underway in this field is closely tied into the salt water problem. Marked success is now being had in this sort of work, which has been greatly assisted by recent developments in cements and cementing methods.

Volumetric Withdrawal

Many rumors have been heard during recent months on probable new manners of allocation in East Texas field. One persistent report is that some form of allocation will be finally adopted based upon a volumetric withdrawal basis, which would include oil, gas and water. It is known considerable attention has been given to some manner of allocating which would correct for the heavy water withdrawals in certain portions of field, but no direct steps have been taken in this direction.

Obviously, no straight volumetric withdrawal basis could be used here, for in order to permit the large water wells to produce any oil at all, other oil wells would be sharply cut below their economic limit. Informed men in the field today have stated it is most logical to anticipate that any drastic step in changing the manner of allocating must divide wells into different types, or separate different portions of the field, and handle each classification separately. Of course, justification for employing different manners of allocation within one common reservoir presents the problem here.

Gasoline Plant Enlargement

Practically every one of the 19 gasoline plants in the East Texas field is either equipped or is enlarging its facilities, to recover and maintain butane in stable and commercial form. This field is considered to be the most reliable reserve of butane in existence (casinghead gas testing from 11 to 13 per cent butane), and this product is very much in demand to answer the increased call for high altitude motor fuels. The recent gasoline line laid from the field to the Gulf Coast has opened a ready market for the product.

Conservation

Any review of the East Texas field today should not fail to acknowledge the splendid manner in which true conservation and control is administered to the world's largest oil field. Cooperative efforts of the major operators have done much toward this end, but the efforts of the Texas Railroad Commission officials cannot be overlooked. Clearly, to check, study and control over 22,000 wells is a major task, and is being well handled by the engineering division of the commission at Kilgore. Equally difficult is the checking on movement of the 450,000 bbls. daily production from the field, even down to all the by-products of the crude from each refinery in the field. This is accomplished by a thorough and efficient accounting system perfected after several years of experience and experimentation.

REFINERIES OPERATING IN EAST TEXAS FIELD

Company and Location—	Type	Rated Capacity	Avg. daily Runs
Beacon Oil & Refining, Henderson	Topping	4,500	340
Cascade Refining Co., Reed Switch	Cracking	3,000	800
Chief Refining Co., Gladewater	Topping	2,000	250
Clay Refining Co., Arp	Topping	3,000	2,960
Danciger Refining, Inc., Longview	Cracking	10,000	4,000
East Texas Refining, Longview	Cracking	10,000	7,000
General American Refining, Gladewater	Cracking	4,000	2,485
General American Refining, Overton	Cracking	5,000	2,410
Hurricane Petroleum Corporation, Overton	Cracking	5,000	3,690
Hurricane Petroleum Corporation, Arp	Cracking	3,750	3,100
Kilgore Refining Company, Kilgore	Semi-Cracking	4,000	1,245
Premier Oil Refining Company, Willow Springs	Cracking	4,500	3,000
Seltex Refining Company, Gladewater	Cracking	3,000	1,400
Sinclair Refining Company, Camp Switch	Topping	3,500	2,000
Southport Petroleum Company, Kilgore	Cracking	5,000	3,000
Tower Refining Company, Overton	Cracking	3,000	1,950

CASINGHEAD GASOLINE PLANTS

Company and Location—	Type	Capacity, cu. ft.
Arkansas Fuel Oil, Greggton	Absorption	8,500,000
Chief Refining Company, Gladewater	Compression	2,500,000
General American, Gladewater	Compression	4,000,000
Gladewater Gasoline Company, Gladewater	Compression	2,500,000
Gregg-Tex Gasoline Company, Greggton	Compression	15,000,000
Gulf Oil Corporation, Overton	Compression	5,000,000
Hanlon-Buchanan, Gladewater	Absorption	15,000,000
Hercules Gasoline Company, Kilgore	Compression	12,000,000
Humble Oil & Refining Company, Overton	Compression	10,000,000
Humble Oil & Refining Company, London	Combination	10,000,000
Humble Oil & Refining Company, Kilgore	Combination	5,000,000
Lisbon Gasoline Company, Joinerville	Compression	6,000,000
Lisbon Gasoline Company, Carlisle	Compression	4,000,000
Marr Gasoline Company, Carlisle	Absorption	10,000,000
Nine Oaks Gasoline Company, Gladewater	Compression	500,000
Parade Gasoline Company, Joinerville	Combination	11,000,000
Sinclair-Prairie, Greggton	Combination	18,000,000
Sinclair-Prarie, Joinerville	Combination	10,000,000
Sabine Valley Gasoline, Kilgore	Compression	11,000,000

TRUNK PIPE LINES OUT OF EAST TEXAS FIELD

Company—	Size Line	Destination
American Liberty Pipe Line Company	8" main line	Rusk
Arkansas Pipe Line Corporation	8"	Shreveport
Atlantic Pipe Line Company	10"	Atreco
Atlas Pipe Line Company	8"	Shreveport
Gulf Refining Company	3-8"	Oklahoma & East
Gulf Refining Company	3-8"	Port Arthur
Humble Pipe Line Company	2-10"	Baton Rouge
Humble Pipe Line Company	3-10"	Todd
Magnolia Pipe Line Company	10"	Center
Magnolia Pipe Line Company	12"	Corsicana
Magnolia Pipe Line Company	6"	Carthage & So.
Shell Pipe Line Company	10" (now looping)	Houston
Sinclair Refining Company	12"	Teague
Sun-Yount-Lee Pipe Line Company	10"	Sun City
Texas Pipe Line Company	10"	Douglass
Texas Empire Pipe Line Company	12"	Port Arthur

SPARKS FROM THE NEWS

Alfred M. Landon may have drilled a political "duster" as some contend but as an independent oil producer his first test since his retirement as Kansas governor points to a new pool in Butler County, Kansas.

The gain in California's April allowable of 52,000 barrels about offsets the decline in prospect for Texas.

That Gulf Coast refinery worker who went home after listening to union organizer's talk and figured out how much he would lose should his plant be unionized, reflects analytical attitude of thousands of oil workers.

Indicating general acceptance of term by consumers as a measure of gasoline quality, patent court refuses exclusive use of "Hi-Octane" as trademark.

With nearly a thousand new wells the first quarter, Pennsylvania Grade fields lead the industry in completions.

While new major trunk line construction has not materialized this year, a large number of smaller jobs is keeping contractors busy.

A salt dome in Lamar County, Mississippi, while nonproductive, was sufficiently interesting so that an offset will be drilled.

Canada, France and Japan absorb nearly 90 per cent of the crude exports from this country.

First reports indicate general increase in first-quarter earnings of oil companies over same period last year.

One branch of the federal government stresses desirability of extending natural gas lines to new communities while congress threatens with new control legislation for interstate operations.

Economists are pointing out that higher wages and shorter hours in industry will give car owners the money and time to consume more gasoline over remainder of year.

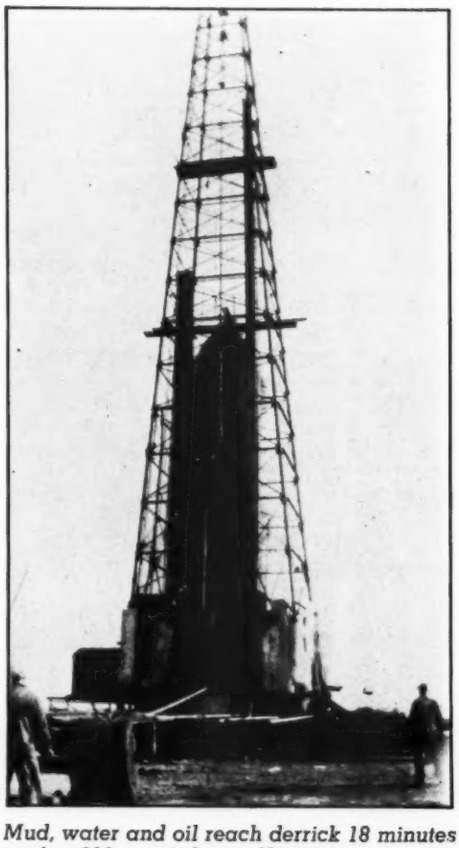
Oklahoma has already received enough revenue from operations on capitol grounds to build the one million dollar office building, one of the reasons offered in justification of the policy of surrounding state buildings with derricks.

Modern refinery processing adds value to the 25,000,000 barrels of low-gravity, high-sulfur crude which is the estimated reserve of the Sulphur Bluff field in eastern Texas.

Voluntary decision of a large majority of employes at two major Gulf Coast refineries that they prefer their own company unions is the most effective answer to outside organizers.

The fact that West Texas completions have averaged about seven daily since the first of the year explains why daily production has passed the 200,000-barrel mark.

DELAYED RETURNS



Mud, water and oil reach derrick 18 minutes after 300-quart shot in New Mexico well

The season has arrived when the refiner checks weather reports against those of salesmen.

State allowables for April indicate recent upward trend is over and production will be leveled off in line with requirements.

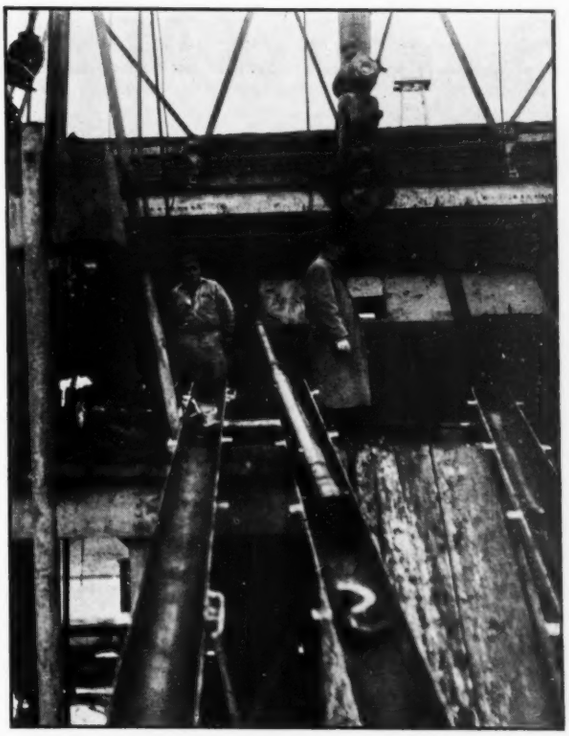
Suggestion that major companies have separate department to carry on exploration work in finding new reserves is favorably received.

Every so often it is necessary to boost estimates of East Texas ultimate production. It is now five billion barrels, with more than one billion barrels already produced.

The filling station which is dark at night probably is run by an independent dealer who found out that you can't operate profitably all evening on sales aggregating 10 gallons.

Fast Drilling Time Is Being Made on Capitol Parkway

By PAUL REED



Preparing to take potential with submerged electric pump and gas lift

The drilling of five wells on the parkway south of the Capitol at Oklahoma City during recent weeks has not only been furnishing a spectacle attracting wide attention but it has also been establishing records of some of the fastest drilling time made in the development of the Oklahoma City field. These wells are lined up down the middle of Lincoln Boulevard on a series of little parks designed to form a grand approach in the landscaping scheme of the grounds. As a result, it is possible for motorists to watch the drilling of five wells close to the curbing with the classic facades of the Capitol and Historical Society Building forming a background. In this narrow area, running from the sunken garden down the 11.08 acres of boulevard parkway, during the past week, two of the wells have been drilled to completion and potentials have been taken on them; one well has been drilling in; one well has been drilling; one well has been shut down for cement to set, preparatory to sidetracking. The drilling of these wells marks the approach to the completion of the development of the Capitol grounds leases. In the months since leasing began in May, 1936, the state of Oklahoma has received close to $1,000,000 from royalties and bonuses, as the result of operations on the Capitol grounds.

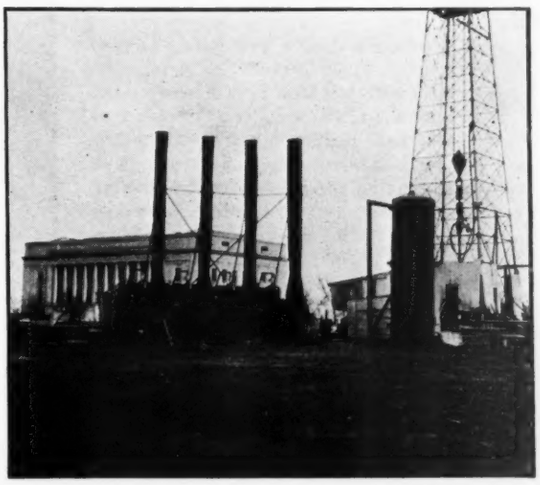
Five wells drilling on parkway leading to the Oklahoma Capitol

Drilling started on all five wells early in February. Surface pipe was set on February 5, for British American Oil Co. No. 1 Parkway, and the oil string was set 32 days later on March 8, at a depth of 6,376 feet. The company's No. 2 Parkway took 30 days to drill from the setting of about 1,000 feet of 13-inch surface pipe on February 6 to the setting of the oil string on March 8 at a depth of 6,374 feet; No. 3 Parkway set surface pipe on February 12 and the oil string on March 19 at 6,370 feet after 35 days' drilling; No. 4 Parkway was started on February 15 and was drilling at 6,298 feet at 7 a.m. March 29. At this same time, Sunray Oil Co. No. 13 State, in the sunken garden south of the Capitol steps, is reported to be setting whipstock at 5,700 feet to sidetrack, in order to drill by twisted-off drill pipe lost in the hole, when drilled to a total depth of 6,335 feet; after a number of days spent in fishing the well was plugged back to 6,150 feet preparatory to sidetracking. Steam drilling equipment has been used on four of these wells; diesel-electric equipment has been used on one of the parkway wells. Fain Drilling Co. has been drilling British American wells Nos. 1, 2 and 4, and Sunray No. 13 State. Arrow Drilling Co. has been drilling British American No. 3.

Fast drilling time has been made in spite of certain practices adopted at the request of the state. The one which threatened to slow drilling to some extent was the provision that exhaust lines be extended to the west under the boulevard so exhaust steam would escape on the Horn lease, away from the traffic of the boulevard. As a result, a back pressure of 50 pounds was put on the pumps. Other rules forbade the hammering of pipe, coming out of the hole, and the popping of boilers. To provide for the eventual restoration of this area to a park-like condition, precautions have been taken to prevent unnecessary damage being done to the ground. Drilling mud is held in tanks instead of pits. Both square and round tanks are used. It is expected operators will resod the ground around the wells as soon as shorter production derricks have been installed and it is practicable to do so. All leases on State Capitol grounds carry a one-quarter royalty. Bids for leases were received after two weeks' notice, and were presented by bidders in the presence of other bidders at a meeting of the governor and the Board of Public Affairs.

The drilling of the wells on the parkway has proceeded according to conventional practices in the Mansion area of the Oklahoma City field: 1,005 feet of 13-inch surface pipe is set and an 11¼-inch hole is drilled to a point about 5 feet above where the top of the sand is expected, where 8⅝-inch casing is set. Surveys to correct deviation of the hole were made every 500 feet. A week is allowed for cement to set and two days are taken for drilling in.

Accounts of the Board of Public Affairs, according to the latest statement, show that up to March 25 the state had received $285,943.94 from royalties and $688,129 from bonuses, making a total of $974,072.94 coming from oil operations on capitol grounds since leasing began in May, 1936. The state has transferred $532,724.26 of this to the building account, $421,348.68 to general revenue account, and $20,000 is held in escrow. The state intends to apply revenues from oil operations to the construction of an office building that will cost a million dollars.



Drilling on parkway in front of Oklahoma Historical Society Building

Bureau of Mines Estimate for April Crude Higher

The daily average production of crude oil for April, 1937, estimated by the Bureau of Mines to meet the demand, is 3,243,000 bbls., which is 84,000 bbls. higher than the estimate for March, 1937, and 227,000 bls. higher than the actual of April, 1936.

In the last four weeks for which complete data are available (February 6 to March 6) the production of crude oil averaged 3,310,000 bbls., 131,000 bbls. daily were added to domestic crude stocks, making an indicated market demand of 3,179,000 bbls. The bureau's estimate of this demand was 3,088,000 bbls. The explanation of the apparent "deficiency of about 90,000 bbls. lies principally in the fact that gasoline stocks increased about 7,500,000 bbls. in the period, whereas the bureau's estimate for this seasonal build-up, based on normal gains, was only about 5,200,000 bbls. In terms of crude-oil demand the difference of 2,300,000 bbls. is equivalent to about 185,000 bbls. daily and more than accounts for the deficiency.

Actual crude production in March is approximating closely the estimated daily average production required for the year. The best present estimate of crude required in 1937 represents an increase of about 8 per cent over 1936 in the total demand for domestic crude and an increase of about 10 per cent in required production, assuming no material changes in crude stocks during the year. Unless total demand substantially exceeds present estimates, the accumulation of about 6,000,000 bbls. more gasoline stocks than was forecast for the first quarter of 1937, together with the recent substantial increase in crude stocks, indicates sharper reductions in gasoline stocks and smaller increases in required production for succeeding months.

Motor Fuel

Domestic demand.—The domestic demand for motor fuel in April has been estimated as 42,700,000 bbls., or 10 per cent above the actual of April, 1936.

Exports.—Exports of motor fuel for April have been estimated at 2,500,000 bbls., which is 200,000 bbls. more than the March estimate but aproximately equivalent to the actual exports for April, 1936.

Stocks.—Stocks of finished and unfinished gasoline amounted to 71,416,000 bbls. on January 31, an increase of 8,341,000 bbls. over stocks on January 1. According to the American Petroleum Institute, stocks were further increased during February by about 8,000,000 bbls., and still further increased in the first two weeks of March, indicating that stocks on March 31 may exceed 82,000,000 blbs.[1] Such stocks appear high when compared with the totals of previous years. However, if the demand for gasoline in the coming season should exceed present estimates, this gasoline may be needed, particularly if the refineries cannot process more than 3,300,000 bbls. daily, as is the opinion of some authorities.

Gasoline production.—Benzol and direct sales and losses of natural gasoline have been estimated as 800,000 bbls., making the estimated production of gasoline 43,660,000 bbls., which is distributed among the districts as follows (thousands of bbls.): East Coast, 6,340; Appalachian, 1,620; Indiana-Illinois, 7,490; Oklahoma, 2,910; Kansas-Missouri, 2,750; Texas-Inland, 3,450; Texas Gulf, 9,490; Louisiana Gulf, 1,600; North Louisiana-Arkansas, 900; Rocky Mountain, 1,020; California, 6,090.

[1]Due to a typographical error in the March forecast, the estimate of this total was erroneously shown as 72,000,000 bbls.

Crude Petroleum

Runs to stills.—Natural gasoline consumption at refineries is estimated as 5.7 per cent of the total gasoline required, or 2,490,000 bbls. The yield of straight-run and cracked gasoline is estimated as 44.32 per cent, an increase of 0.73 per cent over the March estimate. The application of this yield to the estimated straight-run and cracked production of 41,170,000 bbls. gives 92,890,000 bbls. as the crude required at refineries.

Imports.—Runs of foreign crude have been estimated as 2,800,000 bbls.

Exports, fuel, and losses.—Exports of crude have been estimated as 4,100,000 bbls. The estimate for fuel and losses has been increased to 3,100,000 bbls. to adjust it to an upward trend that has developed in this factor.

Required production.—The application of the usual methods to the total required production of crude oil gives the following breakdown by states:

TABLE 1—RECOMMENDATORY LEVELS OF REQUIRED CRUDE OIL PRODUCTION BY STATES[1]

(Daily average in bbls.)

State—	Forecast April 1937	Forecast March 1937	Actual production Jan. 1937
Texas	1,297,900	1,256,600	1,268,000
Oklahoma	609,600	590,700	605,400
California	579,900	570,900	581,000
Louisiana	244,800	240,000	240,200
Kansas	183,000	178,000	171,000
New Mexico	91,400	88,200	89,500
Pennsylvania	49,800	49,000	48,100
Wyoming	44,000	42,200	46,400
Michigan	30,600	30,300	27,200
Arkansas	27,400	28,500	24,800
Kentucky	15,600	16,500	12,900
Montana	14,600	14,600	15,300
New York	14,000	13,500	14,200
Illinois	12,800	12,900	11,900
West Virginia	10,500	10,300	9,300
Ohio	10,200	10,300	8,200
Colorado	4,800	4,300	3,600
Indiana	2,100	2,200	1,900
	3,243,000	3,159,000	3,179,600

[1]The recommendations in this table have been calculated as the requirements for the months stated and are not intended to be calculations of daily average demand for the current year or for any period other than the months stated.

OBITUARIES

J. E. (PETE) URSCHEL, 54, well known oil operator, who died in Dallas, Tex., recently, was born at Rising Sun, Wood County, Ohio. He started work with Ohio Oil Co. in 1897 on the Bill Snider lease near Rising Sun. About 1905 he moved to the Muncie, Ind., field and in 1908 to Bridgeport, Ill.,

J. E. URSCHEL

and with Mr. Watson organized the drilling, contracting firm of Watson and Urschel. This partnership continued until about 1912 when Mr. Urschel moved to the Cleveland field, Oklahoma, where he operated until 1917 when he moved his tools to Altus, Okla., drilling wells and contracting in neighboring fields until December, 1920, when he joined the Humphreys Oil Co. as general superintendent of the Mexia district and handled the development of that field and of the Powell field. After sale of the Humphreys Oil Co. to Pure Oil Co. in 1923, Mr. Urschel continued as general superintendent until the discovery well was drilled in the Wortham pool when he resigned and joined Colonel Humphreys' new company, the Boyd Oil Co., and later the Humphreys Corp., taking charge of all its operations. In 1926 the partnership of Moss and Urschel was formed with headquarters in Dallas, Tex. He continued active in this partnership until his death.

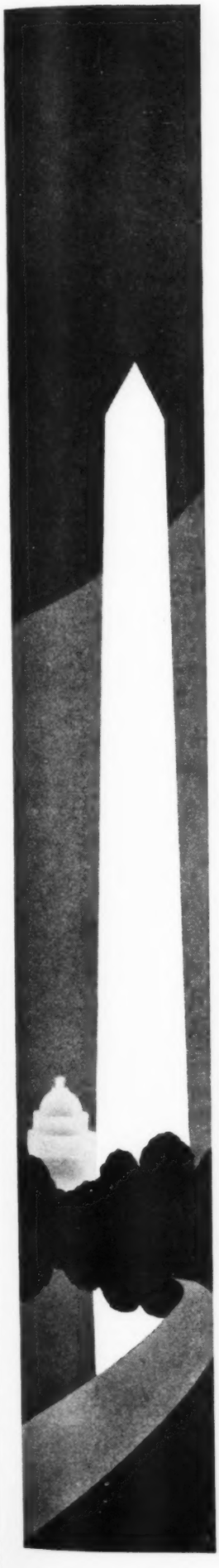
L. J. CROSSLEY, 55, Tulsa, chemist and oil operator since 1920, died last week. He was born at Titusville, Pa., and moved to Tulsa 17 years ago.

WALTER B. GRAY, manager in Tulsa for Jarecki Manufacturing Co., died March 28 at the home of a brother, Warren G. Gray, Shreveport, La., where he had gone to recover from pneumonia and influenza. He was born April 13, 1881, at Bradford, Pa., and had been with the Jarecki company most of his business life. He was one of the widest known oil well supply men. He was an active director of the International Petroleum Exposition, and on the advisory committee of the Tulsa chapter of the American Petroleum Institute.

JOE CARROLL, 40, formerly superintendent of the Great Lakes Pipe Line Co., died in Arizona recently.

JOHN J. HANRAHAN, Okmulgee, Okla., oil man widely known in the Southwest, died March 28. He was a native of Olean, N. Y., and was prominent in eastern oil fields before coming to Oklahoma in 1912. He had been affiliated with the Texas Pipe Line Co. for 26 years and at the time of his death was superintendent of the southern division, with headquarters in Okmulgee.

RAYMOND H. CHERRY, 43, sales manager of the wire rope division of Wickwire Spencer Steel Co., died at his home in Westfield, N. J., on March 20 after a protracted illness. He entered the employ of the American Steel & Wire Co. in 1909 and held various positions until placed in charge of wire rope sales in New York City, a position he held until 1930, when he accepted managership of the wire rope sales division of Wickwire Spencer.



Connally Oil Bill Is Passed by Senate

By HENRY D. RALPH

WASHINGTON, D. C.—The senate has passed the bill of Senator Connally of Texas to make permanent the Connally "hot oil" law. It now goes to the house.

President Roosevelt has returned to Washington after a brief holiday at Warm Springs, Ga., to tackle the major problems of labor disturbances, price inflation, and opposition to his plans for reorganizing the Supreme Court.

The serious epidemic of sit-down strikes was the subject of greatest concern in Washington as the president returned, and he immediately scheduled conferences with administration leaders to discuss what the federal government can and should do under the circumstances. While many government officials contended the sit-down strike is a problem for local authorities, at least so long as the constitutionality of the Wagner labor relations act is in doubt, there was a growing demand that the president take some action, even if limited to a public statement, designed to improve industrial peace. Sentiment is growing for the establishment of a national labor policy which will include better machinery for settling labor disputes without resort to strikes or sit-downs.

Opposition to the president's Supreme Court plan continues to hold firm, and there is no certainty how the senate will vote on the proposal or how soon a settlement will be reached. The issue will dominate congress for many weeks, making enactment of other legislation very difficult, and there is a strong possibility an attempt may be made to avoid a direct vote on the president's plan by first proposing an amendment to the constitution to require Supreme Court justices to retire at the age of 75.

Meanwhile, many administration officials are greatly concerned over signs of inflation, particularly the rapid rise in commodity prices. There is no agreement yet as to what the federal government could or should do to prevent an inflationary price movement, but inflation and the high cost of living will be discussed with increasing frequency.

Taxes

Allied with inflation is the federal budget, and strong demands are being made that the budget be brought into balance at once and further borrowing be terminated. Some are urging this be done by additional taxes, while others insist on reduced expenditures. The tax collections so far this year have been running somewhat under estimates, and it is not impossible a request for a new tax law will be made early in the summer.

Congressional committees plan to take no action for at least six weeks on the president's request for continuing the federal gasoline and other excise taxes which expire June 30. The prospect is these taxes will not be under consideration until a short time before they terminate, which will work in favor their continuance, since administration leaders can curtail debate on the ground speed is needed.

Walsh-Healey

Enforcement of the Walsh-Healey government contracts act on a broad scale was approved by the house in voting an appropriation of $315,000. The appropriations committee proposed to reduce this by $50,000 on the ground the larger sum would not be necessary if the labor department interpreted the law more narrowly. The committee objected to the department's ruling which limited the open market exemption to purchases which government departments are permitted to make without advertising for bids. The committee felt this provision should be interpreted to exempt all contracts for goods, such as gasoline, of a type which may be bought on the market and are not made exclusively on government specifications. However, at the request of the committee, the comptroller general rendered an opinion upholding the labor department, and on this opinion the house voted the full appropriation recommended by the budget bureau.

Plans of the department to use the Walsh-Healey Act as an instrument for controlling wages and working conditions throughout industry are evident in the size of the bureau proposed and because officials justified it on the basis of NRA experience.

Proposed Set Up

The proposed setup includes a board of three members plus assistants to cost $25,000 a year to pass on all quasi-judicial questions. One member will represent industry, one labor, and the third will be impartial. Actual administration will be in the hands of an administrator and his immediate staff, to cost $30,000 per year, and under him will be an examining section at $50,000, an exemptions section at $8,000, an investigation section at $12,000, an administrative section at $12,000, a child and convict labor section at $14,000, a minimum wage unit at $32,000, and a safety and health unit at $26,000. This provides for a staff of 82 employes, and in addition $60,000 for part time examiners and inspectors in the field and for compensation to state labor inspectors for assisting in checking federal contracts. The new bureau is planning to inspect some 6,000 factories in the enforcement of the labor provisions, and in addition to visit many thousands more in connection with the safety and health provisions since these provisions apply to subcontractors and suppliers as well as to basic contractors.

Officials of the department rejected all proposals of the appropriations committee that the act be enforced largely through affidavits from contractors and complaints from employes, and insisted it is necessary to keep a constant check on the activities of all government suppliers.

Little opposition to federal regulation of the natural gas industry was in evidence at the three days of hearings held by the house committee on interstate and foreign commerce, but representatives of mid-western cities showed a determination to fight for a provision permitting a city to secure service from a new pipe line without permission from the Federal Power Commission.

This point probably will be the chief matter of debate in the house and senate. The Lea bill requires a gas company to secure a certificate of public convenience and necessity from the Federal Power Commission before extending a pipe line to a community already served. The Crosser bill would not require such a certificate, and several spokesmen for municipal interests contended this would permit a city to arrange for a new supply of gas to combat monopoly and reduce prices.

Luke J. Scheer, appearing for the Cities Alliance, said of the provision in the Lea bill: "This section freezes monopoly in its present position. It doesn't let the cities bring in the healthy competition so vital to keep natural gas rates down."

City officials present, including John W. Smith, former mayor of Detroit and present head of the Cities Alliance; W. C. Reed, chairman of the Ohio division of the Cities Alliance and chairman of the Public Utility Commission of Cleveland, and W. L. Dickey, city attorney for Portsmouth, Ohio, were gen-

erally in favor of the Lea bill, but they wanted to have this pipe line section omitted.

Milo R. Maltbie, chairman of the Department of Public Service of the state of New York, thought the section conferring upon the Federal Power Commission right to instigate investigations might prove unconstitutional as an invasion of state's rights.

"Where the commission has no power to fix rates," Mr. Maltbie said, "it has no power to investigate, either on its own motion or on the complaint of someone else."

William A. Dougherty, a representative of several pipe line companies, subsidiaries of Standard Oil Co. of New Jersey, told the commission he did not oppose the legislation, and thought it was a "proper sort of measure."

In reply to a question by Representative Edward Eicher of Ohio, Mr. Dougherty said: "No, I'm not afraid it contains any death sentence for natural gas pipe line companies. I think its only result will be additional cost to the federal government, to the utility companies, and eventually to the rate payer or consumer. But we've no objection to it. Eventually the federal government will take over public utilities more and more, so we're not objecting."

Clarification Needed

Mr. Dougherty submitted several amendments for general clarification of the bill's language.

John E. Benton, solicitor for the National Association of Railroad and Utility Commissioners, favored the Lea bill.

Harry R. Booth, acting counsel for the Illinois Commerce Commission, believed the federal government should regulate those phases of public utilities beyond the scope of state governments. According to Mr. Booth, 82 per cent of the natural gas used in Illinois is piped from Texas. He charged that if congress does not do something in regard to the rates, the people of Illinois will pay $20,000,000 to $35,000,000 in excess gas rates within the next five years.

An amendment was submitted by Mr. Booth that during the time after enactment and before permanent rates are fixed by the Federal Power Commission, there should be a temporary rate allowed of not less than 5 per cent on original cost less accrued depreciation, plus working capital, as a fair profit allowable to the gas companies.

John W. Smith, national chairman of the Cities Alliance, said state regulatory boards have been a complete failure. "The only way that we are going to get relief is by federal legislation and federal regulation." Mr. Smith favored the Crosser bill, which he said struck a more direct and telling blow at monopoly. He said that at Kansas City, close to a natural gas field, the rate of 40 cents applies at the city gates, while at Detroit, about 500 miles more distant from the source of supply, the rate is 33⅓ cents at the city gates.

Robert D. Garver rose following Mr. Smith's statement and branded it as false and misleading.

"I am a director of the Kansas City Gas Co.," he said. "Mr. Smith's statement is entirely untrue and misleading, and I don't want it to go in the record unchallenged. Three thousand feet of gas at Kansas City costs $3.04. At Chicago this costs the consumer $3.63. Chicago's rate is 19.7 per cent higher on the average."

Harold H. Burton, mayor of Cleveland, Ohio, regarded the bill as a connecting link to stop the monopolistic control of natural gas supply and distribution.

Francis Daily, representing the Chicago District Pipe Line Co., offered an amendment that transportation and sale of natural gas wholly within a single state under authority granted by the state commission, would not come under the act. Mr. Daily was not opposing the bill, but merely offering this amendment to protect his and similar companies' interests.

In two decisions recently the Court of Customs and Patent Appeals has upheld the patent office in refusing to register trademarks for gasoline considered to be descriptive of the nature of the product.

Patent and Trademark Decisions

Richfield Oil Co. was denied the use of "Hi-Octane" as a trademark, in a decision which ruled that the words "Hi," admittedly meaning "high," and "Octane," were both English words, found in the dictionary, and since they describe the character of the goods and not the origin of ownership the company does not have the right to their exclusive use.

In the second case, the court denied the use of the figure "76," in block type, as a trademark for a brand of motor fuel made by Union Oil Co. of California. The reasons for not allowing these figures as a trademark were that "76" might mean to the purchaser the octane rating of the gasoline, or if used for blending purposes, "76" might mean straightrun gasoline of 76 Baume gravity. Since this would be, or might be, taken as a grade or quality it could not be registered as a trademark, which should describe the origin of ownership rather than the quality or grade, the court ruled.

The U. S. Court of Customs and Patent Appeals has upheld the patent office in finding that Carbon P. Dubbs was the original inventor of a method of reducing the pressure on heavier oil to effect distillation of a portion of that oil as one of the steps in cracking petroleum.

The case, filed as an interference by Dubbs to the right of John Coast, Jr., to obtain a patent on a process similar to Dubbs' was begun on June 29, 1926, and has been fought through the examining division, the board of patent appeals, the commissioner of patents, and finally the Court of Customs and Patent Appeals.

Coast's contention was that his process was an improvement on the Dubbs process, and was not a part of the already patented procedure, while Dubbs claimed that, although the process was not specifically mentioned, it was an inherent part of his entire process and had always been used. The court held Dubbs has proved the process was inherent as a part of the whole, and that Coast was not entitled to a patent on one part of it.

Crude Oil Stocks

Stocks of domestic and foreign crude petroleum at the close of the week ending March 13 totaled 290,613,000 bbls., according to the Bureau of Mines, an increase of 1,002,000 bbls.

(Barrels of 42 gallons)

Grade of crude oil—	March 13	Change from March 6
Pennsylvania grade	4,031,000	— 18,000
Other Appalachian	858,000	— 19,000
Lima-N. E. Indiana-Michigan	872,000	— 10,000
Illinois-S. W. Indiana	9,679,000	+ 42,000
N. Louisiana and Arkansas	9,992,000	— 230,000
West Texas and S. E. New Mexico	28,399,000	— 63,000
East Texas	22,174,000	+ 416,000
Other Mid-Continent	115,900,000	+ 595,000
Gulf Coast	24,778,000	+ 290,000
Rocky Mountain	25,854,000	— 15,000
California	28,960,000	— 244,000
Foreign	1,566,000	+ 158,000
Total reported weekly	273,063,000	+ 902,000
Estimates of unreported stocks	17,550,000	+ 100,000
Total stocks	290,613,000	+1,002,000

Baton Rouge refinery of Standard Oil Co. of Louisiana

Kansas Advisory Committee Is Faced With Many Problems

By L. G. E. BIGNELL

Chairman Ernest E. Blincoe, of the Kansas State Corporation Commission, Topeka, Kansas, announced that an oil advisory board has been named to work out definite recommendations to the commission for improvement in methods of taking potentials. The matter of taking potentials has been the subject of several hearings, and of innumerable conferences by the commission. The problem is to find a better method which will be practical and which can be used under the limitations of the Kansas law governing ratable taking.

The advisory committee is headed by A. S. Ritchie, chairman, McPherson Drilling Co., Wichita, Kansas, and the members are:

C. V. Millikan, Amerada Petroleum Corp., Tulsa; J. H. Steward, Atlantic Refining Co., Tulsa; Joe Aylward, Wichita, Kas.; J. S. Noland, Barnsdall Oil Co., Tulsa; C. D. Watson, Carter Oil Co., Tulsa; R. Van A. Mills, Continental Oil Co., Ponca City, Okla.; A. L. Derby, Derby Oil Co., Wichita, Kas.; M. R. Shaffer, Empire Oil and Refining Co., Bartlesville, Okla.; C. M. Fitzwilliam, Allison and Fitzwilliam, Wichita, Kas.; R. S. Knappen, Gulf Oil Corp., Tulsa; J. F. O'Shaughnessy, Lario Oil Co., Wichita, Kas.; Frank Zimmerman, W. O. McBride, Inc., McPherson, Kas.; F. E. Mallonee, Magnolia Petroleum Co., Wichita, Kas.; H. M. Williams, Ohio Oil Co., Wichita, Kas.; H. S. Diem, Olson Oil Co., Hutchinson, Kas.; D. R. Knowlton, Phillips Petroleum Co., Bartlesville, Okla.; E. B. Shawyer, Wichita, Kas.; R. B. Roark, Shell Petroleum Corp., Tulsa; J. A. Wolfe, Sinclair Prairie Oil Co., Tulsa; Geo. A. Selinger, Skelly Oil Co., Tulsa; Frank Pickell, Stanolind Oil & Gas Co., Tulsa; J. H. Tatlock, Wichita, Kas.; E. R. Filley, Texas Co., Tulsa; J. I. Daniels, Pryor and Lockhart, Wichita, Kas.; Van D. Bennett, British American Oil Co., Tulsa; John Denman, Sedan, Kas.; J. A. Vickers, Vickers Petroleum Co., Wichita, Kas.; and J. W. Hewgley, Transwestern Oil Co., Oklahoma City, Okla.

The first meeting of this advistory committee was held at 2 p. m. Monday, March 29 at the Allis Hotel, Wichita, Kas. The principal business was organization and outlining future work.

Before the A.P.I. meeting of the Mid-Continent District held in Tulsa recently T. A. Morgan, director of the Conservation Division of the State Corporation Commission of Kansas presented a paper entitled "Potential Methods in Kansas" in which the history of conservation in that state was reviewed. The present potential taking methods were evolved from suggestions offered by the producers of Kansas and Mr. Morgan stated the commission has always been ready to approve suggestions offered by the majority of the operators in any field.

"Present rules and regulations governing proration make use of the word 'determined' instead of 'taken' when referring to potentials," Mr. Morgan stated. "Consequently, under certain conditions, as imposed by the rules and regulations, any potential may be determined by methods other than a full 24-hour physical test.

"Before being granted an allowable, a potential must be determined for each new well. This potential is designated as an 'initial' potential. Sixty days after the initial potential, another potential, known as a 'sixty day retest' becomes due. When the field potential per well average is more than 100 bbls., field tests are determined each four months or three times a year and are 24 hours in duration. In other words, a well in one of the flush or semiflush areas whose initial potential was determined in January would face three additional required potentials this year and three each year thereafter until such time as the average per well potential for the field falls below 100 bbls. Two potentials each year would then be required. In fields having a potential per well average of less than 100 bbls., field tests are determined each six months, or twice a year, and are 48 hours in duration. The basis of the potential schedule is the initial potential, the 60-day retest and the field test.

A. S. RITCHIE
Chairman of Advisory Committee to Kansas State Corporation Commission

"However, other potentials known simply as retests are frequently taken. Retests may be taken at the request of the operator or the conservation division. While the conservation division seldom requires a retest, operators often use this means of increasing their initial potential. As an example, in the Silica pool approximately 170 required 60-day retests have been taken and during the same period operators have requested approximately 165 potentials.

"Sixty-day retests represent an endeavor to reflect the first serious potential decline in a well. Operating methods have changed to the extent that a well's peak potential may be reached several months after its initial potential. For this reason, the 60-day potential rule has been revised to read as follows: 'Sixty days after initial potential, provided that, if there has been established before the expiration of such 60 days a potential larger than the initial potential, the 60-day test shall be taken 60 days after such larger potential was established; provided further, that the provisions for 60-day retests shall not apply to 60-day retests and field tests.' Under the above rule an operator may delay a 60-day retest for several months by taking retests that continually increase the potential of his well. Nevertheless, the 60-day retest will still operate effectively in reflecting the first severe potential decline. No special consideration is given to acid treated wells. Most acid treatment now occurs soon after initial potentials and potential increases thus obtained merely operate to further delay 60-day retests, thereby evidencing the potential decline after acid.

"In lieu of physical or 24-hour potentials, decline curves and percentage declines are being used in potential determinations. When shorter than 24-hour tests are taken, a factor is applied for reduction to a 24-hour basis. This procedure is authorized by rule 100 D, which reads, in part as follows: 'In lieu of physical tests, reasonable decline curves or other practical determinations may be applied. When conditions necessitate tests of less than 24 hours duration, or when competent evidence shows capacity of any well in such common source of supply may be computed by applying a reasonable factor.'

"Flush fields with large initial production have made imperative the use of shorter than 24-hour potentials. To accomplish a reduction to a 24-hour basis, a factor is applied. At the present time, Kansas has wells, which, if allowed to take 24-hour potentials would, during the potential, produce their allowable for approximately two months. Furthermore, it is obviously uneconomic to require lease storage and pipe line facilities of sufficient magnitude to handle such abnormal production.

"Factors are determined by the conservation division with the cooperation of producers. Every effort is made to reach a figure equitable to all concerned and it seems that factors used have given general satisfaction.

"Percentage declines are more generally employed than are decline curves in determining potentials. Such methods are not, however, often used except in connection with field tests. As in the case of factors, producers must indicate a desire for other than physical tests before such action is considered by the conservation division.

"When such action is requested by producers, through conferences, an endeavor is made to arrive at a percentage decline which will be agree-

able to producers and at the same time be consistent with data in the hands of the conservation division. Decline curves and other methods are used by the division in establishing the equity of percentage declines. The knowledge that physical tests may always be taken at their own discretion seems to promote the highest degree of cooperation among producers.

"Results obtained by using percentage declines seem to have been generally satisfactory. Nevertheless, certain weaknesses are immediately apparent. It is obviously impossible to give effect to variance in decline rates between wells, and constant study is necessary to avoid setting up ficticious potentials. Percentage declines do eliminate the disadvantages of physical tests.

"Decline curves have not given satisfaction. It has not yet been possible to evaluate varying rates of volume withdrawal nor will a single curve reflect varying rates of decline between leases. At the present time, decline curves are not being given much consideration except as a supplement to percentage declines."

In concluding Mr. Morgan stated, "Proration history in Kansas clearly indicates a decrease in both the number of required potentials and their duration. There is some evidence to indicate that the present schedule of potential tests may prevail for some time with a gradual increase in the use of percentage declines and factors. The future is in the hands of the producers. The conservation division invites a close study of the rules and regulations, and continuance of the same high type of cooperation that has existed in the past in determining future potential methods in Kansas."

In addition to the taking of potentials there are many other factors which affect the proper and equitable distribution of gas and oil from underground reservoirs in Kansas fields. So long as the well's capacity to produce is the only measuring stick used in determining the daily allowable there will remain that tendency upon the part of producers to follow the "law of capture" closely. For this reason it is hoped the commission and the advisory board will give careful consideration to well spacing, acreage factor, market demand and pipe line facilities. These, together with other factors, make up the problems of the Kansas producer and if any of them tend to reduce the earning power of the capital investment in Kansas compared with earnings from oil investments in other states it is only natural investors are going to divert their money to those states from which they can get the most favorable returns.

All oil states are in competition for capital to be invested in industries located within each state's boundaries. The total sum of capital available for reinvestment within each state is not sufficient to carry on the business. It therefore becomes necessary for each company to attract capital from financial centers outside of the state and to do this successfully it is necessary the earnings upon the capital be favorable. Any company doing business in several oil states tends to place its money in those states from which it can receive the best returns.

These general conditions make it necessary that the operating conditions in the Kansas oil fields be based upon much the same governing factors as those in other states. No one state can be isolated and expect long to enjoy prosperity in any industry and this is particularly true when applied to the oil industry.

There are large areas of unexplored territory in Kansas which offer opportunity for investment. However, many of these prospective gas and oil fields will be at considerable depths, if they exist, and will therefore cost considerable money to develop. If the rules and regulations governing the daily allowable for such wells are so formulated as to restrict the rate of return on capital spent for this exploration and development work it is only natural the oil company executives will defer investment until a more favorable time.

If the spacing of wells in any oil field is not regulated in some way and the allowable for the lease is based upon the number of wells, it will work a hardship for the oil companies because it will mean larger investments and slower returns. There can be no fixed rule for well spacing that can be applied to every field but it is possible for operators and conservation department to study the situation and cooperate in the formulation of suitable rules and regulations for the area under consideration. Therefore well spacing is important in Kansas and should be one of the major topics for discussion by the advisory committee.

Regardless of the size of wells in a new pool the rate of production will be definitely restricted by pipe line outlet. If there is no such outlet the development will be retarded and if the rules and regulations applied to a new discovery are such as to limit the rate of withdrawal to only a small part of the well's capacity it will be difficult to convince the pipe line company the line should be extended to this new well. Consideration must be given to fixing a new well's allowable high enough to induce the investor to drill additional wells so the pipe line company may be assured of a sufficient volume of oil to justify investment in new lines.

There are other factors such as market demand for the oil from each pool to be considered rather than following too closely the charted rules and regulations for well allocation. Each pool has its own problems and this is one of them. Efficient production should also be considered rather than just the ability of the well to produce a given volume of oil as indicated by full open flow potentials. The well's true capacity should be ascertained by considering the numerous factors affecting production rate, through applying modern production methods.

While these problems are rather intricate and involved it is believed solutions for most of them can be found under present state laws. The success of the plan will rest largely upon cooperation between the operators in the various pools in agreeing upon practices voluntarily and then asking the conservation director to write rules and regulations governing the individual field's operating conditions which will come within the scope of the present Kansas laws.

Southwestern A.P.I. Meeting

JOHN A. RITTER

The committees on arrangements for the spring meeting of the Southwestern District of the American Petroleum Institute Division of Production in Dallas, Tex., April 1 and 2 promise an excellent two-day technical program together with an extensive program of entertainment. The entertainment committee is headed by John A. Ritter, Sun Oil Co., Dallas, and the technical program is in charge of a committee headed by A. G. Levy, Texas Co., Shreveport, La.

The complete program was published in The Oil and Gas Journal of March 18 on page 30 and will provide a broad discussion of many subjects of particular interest to the industry at this time.

Labor

(Continued from Page 9)

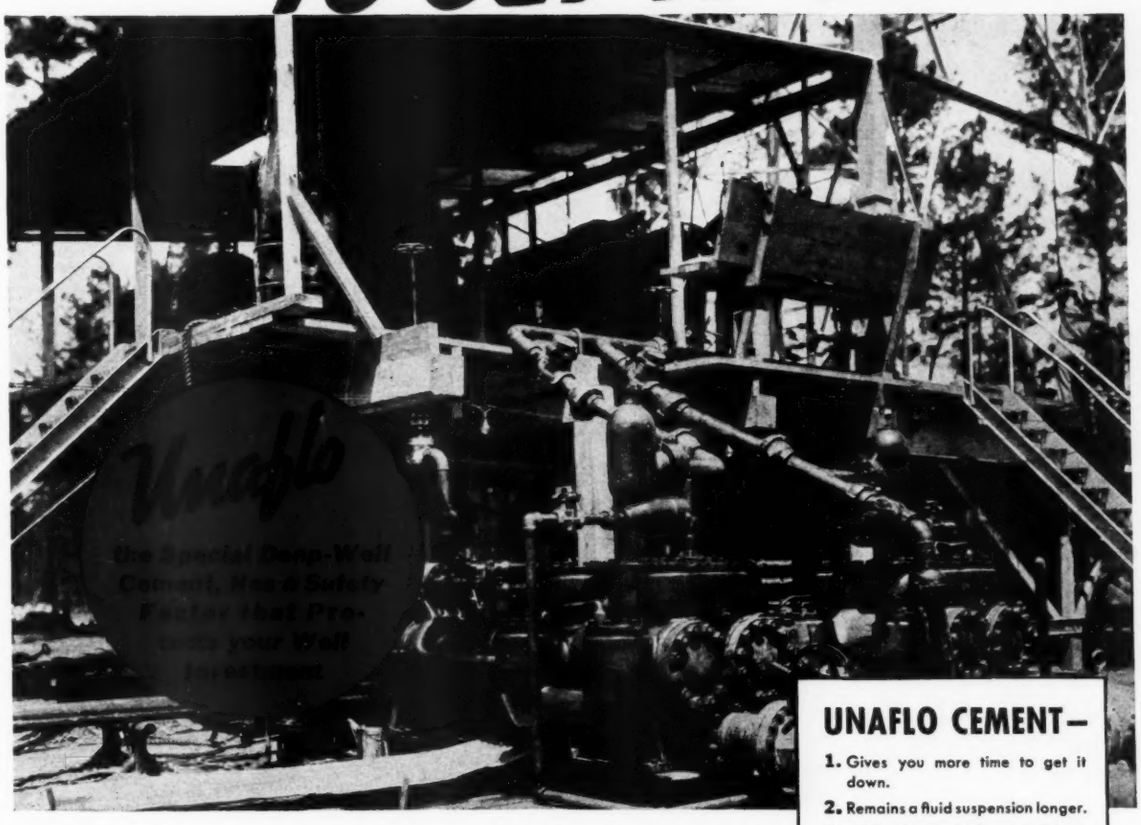
at all times. A worker's seniority status remains intact during lay-off periods which do not exceed 120 consecutive days, but after that time he must reenter the service as a new employe with no accrued seniority. Although seniority is to be observed in laying off and rehiring, only 'due regard' must be given to length of service in promotions. A 2 per cent leeway in the total number of promotions and demotions is allowed in any six-month period, but each deviation from strict seniority must be the subject of joint conference between the union and the employer before being put into effect. The agreement also provides that other seniority regulations may be jointly made on application by either party.

"Hours of Work and Leave Privileges—Some flexibility in scheduled hours is secured by providing that weekly hours of work must not exceed 40, while in any 2-week period no more than 72 hours may be worked. Daily hours are restricted to a maximum of 8, with an additional stipulation—to avoid extended working periods at shift changes—that no more than 16 hours may be worked in 2 consecutive days. Emergency work but not overtime, is excluded from these limitations of working hours. All overtime work must be paid for at time and a half and the equivalent of hours worked overtime must be taken off later.

"One week's vacation with pay is granted to all workers after one year's service and 2 weeks' vacation after 2 years of service. The rate of pay is based on average earnings during the 3 months preceding the vacation. A worker on lay-off does not lose his vacation rights unless the period of lay-off exceeds 120 consecutive days, but he forfeits one-twelfth of his vacation pay for each month off the job. At a specified time each year vacation preferences are to be indicated by the men, and these requests are to be followed by the company insofar as possible. In case of conflicts, preference is to be given in accordance with seniority. Up to one year's leave may be secured for union business without such absence adversely affecting the worker's status as a regular employe or his vacation and seniority rights."

Agreements with other plants follow most of the general principles embodied in the Sinclair agreement. However, in three other agreements the seniority question is not fully developed and in one other the question is left open to further negotiation. In some cases, the seniority principle is applicable for at least a 30-day trial period for the worker in line for promotion and in other cases each promotion is subject to discussion with the plant committee.

GIVES YOU MORE TIME TO GET IT DOWN



● When the hole is deep and temperature's high—and trouble starts to pop—that's when you'll appreciate the *extra time* Unaflo gives you! Unaflo sets slower, yet hardens quickly after initial set—forms a tight shut-off against gas and water.

In Oklahoma there is a Johnson Sand well that produces about 1500 barrels of gross fluid per day on gas lift, cutting approximately 98%. It was decided to try to plug off water in this well by attempting to force quantities of thin cement slurry into permeable streaks in the sand, and then remove the cement from the hole.

Thirty-five sacks of Unaflo were pumped into the seven-inch casing between two rubber plugs. Pressures up to 2400 pounds were used. Here's a record of the time:

Mixed 35 sacks	**22 minutes**
Pumping cement in casing	**4 minutes**
Put in follow plug	**7 minutes**
Pumping plug to 6,245 ft.	**5 hrs. 5 min.**
Total Time	**5 hrs. and 38 min.**

Why not give this new and better oil well cement a trial on your next job? Universal Atlas Cement Co., United States Steel Corporation Subsidiary, Amicable Bldg., Waco, Texas. Kansas City, Tulsa, Oklahoma City.

UNAFLO CEMENT—

1. Gives you more time to get it down.
2. Remains a fluid suspension longer.
3. Follows irregularities of well bore and casing.
4. Hardens thoroughly with high density after it is placed.
5. Displaces contaminating elements in the well.
6. Not stiffened by mud contamination.
7. Not stiffened by salt water contamination.
8. Sets satisfactorily in sulphate water.
9. Requires no ice.
10. Makes squeeze and plug-back jobs easier, surer, more successful.

U-11

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UNAFLO

FOR SAFE DEEP-WELL CEMENTING

ECONOMY-MINDED OIL COMPANY BUILDS POWERFUL GENERATING PLANT

Looking forward to the day when as many as 70 wells may be on the pump, E. H. Moore, Inc. has installed these three Type GN-8 gas engine driven electric sets in the Fitts Pool, Okla. Each is rated 400 H. P. at 400 r.p.m. Additions or removals can be made by units. The Moore properties are ideally grouped for the operation of a generating plant of this size. All the necessary current for the camp, the compressor station, and the wells is provided by this central plant. Convenient, reliable, economical!

THE COOPER-BESSEMER CORPORATION

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Dr. Francis to Represent Exposition at World Petroleum Congress

Dr. Charles K. Francis, consulting petroleum technologist and chemist, and technical editor of The Oil and Gas Journal, has been appointed official delegate to represent the International Petroleum Exposition at the World Petroleum Congress meeting in Paris, June 14 to 19. He is temporary chairman and secretary of the American members of the Institution of Petroleum Technologists, of London, the sponsors of the congress. Doctor Francis will present before the Paris Congress a moving picture illustrating the many phases of the last International Petroleum Exposition, held in Tulsa in 1936.

DR. C. K. FRANCIS

J. Garfield Buell is the chairman of a group of oil men who will go to Paris from the United States, sailing on the Normandie from New York, June 2, for the purpose of attending the congress and presenting an invitation to it to select Tulsa as the meeting place of the next World Petroleum Congress in 1940.

The congress for this year will be organized in the Maison de la Chemie, where all sessions will be held. It is expected that many of the well known authorities on petroleum will attend and present the original papers. The secretaire general, J. Filhol, has announced that already delegates from 35 countries have signified their intention to be present. French is the official language chosen for the congress but papers may be presented in English or German when desirable.

Dr. Gustav Egloff, director of research for the Universal Oil Products Co. and honorary correspondent of the Institution of Petroleum Technologists, is chairman of the committee to arrange the program of the congress on refining. A number of notable American petroleum technologists, who have submitted papers to this committee on various phases of oil refining, will be with Doctor Egloff, joining the American delegation at New York, sailing on the Normandie.

DR. GUSTAV EGLOFF

Oil Course at Berkeley

Principles of thermodynamics, heat transfer and fluid mechanics applied to equipment for distillation are included in an evening course just beginning at the University of California at Berkeley. Topics include: Design computations for a simple distillation unit, including design features and capacity limitations of the fractionating column, economical use of heat exchangers, design of condensers and coolers, design of tubular fired heaters, specifications of pumping equipment and drivers, general arrangement of plant and piping, and control instruments. The class is conducted by Frank L. Maker, Standard Oil Co. of California.

Louisiana Output Reduced

NEW ORLEANS, La.—The Minerals Division of the Louisiana State Conservation Department has ordered a decrease in its proration order for April of 325 bbls., compared with March production. The total daily production allowed is 235,675 bbls., of which South Louisiana fields are allowed 163,175 bbls., compared with 163,500 bbls. in March.

Lake Navigation Opened

MUSKEGON, Mich. — Tanker movement of gasoline from Chicago district refineries to Muskegon, principal west Michigan distributing center, has opened the 1937 bulk navigation season. Within less than a week the New Haven and Schenectady of Socony, each having a capacity of about 650,000 gallons of gasoline, and the Beaumont Parks, Standard Oil Co. (Indiana) tanker, with a capacity of about 800,000 gallons, had made three round trips each to Socony-Vacuum and Standard of Indiana tank farms on the Muskegon harbor. The gasoline tankers have been the last Great Lakes bulk carriers to close the navigation season and the first to resume in the spring here for several years.

Arguments at Madison Are Scheduled for April 15-16

MADISON, Wis.—Judge Patrick T. Stone will hear further arguments in federal court here April 15 and 16 on motions of major oil companies indicted on charges of violating the antitrust act.

Special motions by Gulf and Tide Water companies will be argued April 15 and a general defense motion demanding a bill of particulars on the following day.

Defense attorneys said they had no reason to draw any definite inferences from the setting of the new dates as bearing upon the court's probable decision on demurrers to the indictments argued early in March, though it was pointed out that if the demurrers were sustained there would be no occasion for further argument.

Drilling Equipment for Alberta

CALGARY, Alberta. — It is estimated that oil companies already fully financed will spend more than $3,000,000 in the purchase of drilling rigs, derricks and casing to meet their definite commitments. This does not include labor costs, nor does it include purchases by companies not fully financed which have announced drilling plans. While steel derricks will be manufactured in Calgary to some extent, most of the equipment will be imported from the eastern states, Oklahoma and California.

Kansas Rejects Production Tax

The Kansas house of representatives killed a measure to levy a gross production tax on natural gas and oil.

Protest Texas Gas

MUSKEGON, Mich.—Landowners in the Tri-Townships field of Millbrook-Hinton and Belvidere townships, Mecosta and Montcalm counties, protested in a petition to Governor Frank Murphy urging limitation of Texas gas, being distributed in Detroit, until at least 5 per cent of the open flow capacity of Michigan fields is being marketed. The petition was signed by about 500 persons in the state's largest gas-producing area.

THE MARKETS*

CRUDE OIL: *Except for a few isolated points where allowable production exceeds the available pipe line outlets, the crude market continues to present a firm front. Reduction in April allowable of a few fields in Texas will serve to tighten situation in that state. Important buyers anxious to increase connections in Oklahoma and Kansas.*

REFINERY: *Recent interrefinery buying apparently has tightened gasoline in Mid-Continent and several other refining areas. Sellers hopeful that tankcar gasoline prices can be advanced during April to bring them in line with crude advances announced since the first of year. Residual fuels and lubricants continue strong. Heavy demand for tractor fuels.*

TANK-WAGON AND SERVICE STATION: *Advance in gasoline prices in Nebraska due to 1-cent increase in state tax. No important changes in other areas.*

FINANCIAL: *Oil stocks do better than general market. Average prices for 30 representative stocks for week ended March 27 were: High, 43:15; low, 40.94; close, 42.79. For week ended March 20: High, 44.48; low, 42.05; close, 42.52.*

**Detailed information in market section.*

Oil News from Foreign Lands

Colombian Oil Production

Recovering from a slump during January, crude oil production in Colombia and Peru in February returned to approximately the record-breaking rates established during the last half of 1936.

While the total production for February was slightly less in both countries compared with January, the daily average yield was considerably higher and the discrepency was due entirely to shortage of the past calendar month. International Petroleum Co. produced 1,152,876 bbls. of crude in Peru during February, a daily average of 41,174 bbls. Last month's production boosted the company's output for January and February to 2,416,474 bbls., compared to 2,320,024 bbls. for the same period in 1936. International's production in Peru during January was 1,263,598 bbls., but the daily average was only 40,761 bbls. In February, 1936, International produced 1,126,810 bbls. in Peru.

In addition to International's production, Lobitos Oilfields, Ltd., produces about 6,100 bbls. daily in Peru.

Tropical Oil Co., sole producer in Colombia, recovered 1,617,441 bbls. during February, a daily average of 57,765 bbls., compared to 1,668,490 bbls. in January, and daily average of 53,822 bbls. For the first two months of this year, Colombia has produced 3,285,931 bbls., compared to 3,087,021 bbls. for the same period in 1936. In February, 1936, Colombia produced 1,611,618 bbls. and for the first two months of that year a total of 3,087,021 bbls.

COLOMBIA PRODUCTION

Month—	1937	1936
January	1,668,490	1,611,618
February	1,617,441	1,475,403
January-February	3,285,931	3,087,021

PERU PRODUCTION*

January	1,263,598	1,193,214
February	1,152,876	1,126,810
January-February	2,416,474	2,320,024

*All figures exclusive of Lobitos' production of 6,000 to 6,150 bbls. daily.

Italy's Refining Program

As further evidence of Italy's bid for greater security in the matter of petroleum products, the country plans to produce about 2,337,500 bbls. of gasoline during 1937. Expansion and improvement to older refineries during 1936 and the commissioning of an entirely new plant early in 1937 will make the greater production schedule within reach.

In anticipation of greater internal gasoline production, the "Interministerial Board of Petroleum Control" (Commissione Interministeriale per la Disciplina Petrolifera) has considerably reduced import licenses for 1937 from the amounts granted in preceding years.

Provision is made in government decrees to blend 20 per cent fuel alcohol with gasoline.

During 1936, import licenses were granted for 4,505,000 bbls. of gasoline and 1,533,000 bbls. of crude petroleum. Although the exact license figures for the current year are not yet known, it is believed that the quantity of gasoline to be imported will be reduced by 700,000 bbls. and crude by about 425,000 bbls.

Each of the Azienda Nazionale Indrogenazione Combustibili hydrogenation plants now under construction at Leghorn and Bari are claimed to be capable of producing 2,040,000 bbls. of gasoline. The plants at Leghorn and Bari are expected to contribute considerable to establishing independence of Italy in petroleum. Normal annual consumption is calculated at about 4,675,000 bbls. of gasoline. The hydrogenation plants are being equipped to refine heavy crude produced in Albania and also to recover and treat oil from coal, lignite and asphaltic rocks.

Deep Test in Kowait

A long string of protective casing is to be set in Kowait Oil Co. No. 1 Bahrah, wildcat oil test near the northwestern shoreline of the Persian Gulf. Operators were last reported reaming hole preparatory to setting casing with total depth of about 6,800 feet.

The Kowait wildcat test is a joint project of Gulf Oil Corp. and Anglo-Iranian Oil Co.

No Chilean Gasoline Monopoly

A proposal to establish a government gasoline monopoly in Chile has been rejected by President Arturo Alessandri as illegal. The proposal was made by representatives of the Automobile Club of Chile, the truck owners syndicate and several strong chauffeurs' unions, who conferred with the president.

Heavy Duty Trucks to Iran

One hundred and thirty American manufactured heavy duty trucks have been ordered by Societe Anonyme Centrale, the government transportation monopoly at Teheran, Iran. The new order involving $500,000 is the largest export deal closed by an American truck manufacturer since the World War. The 130 new trucks will augment a fleet of 100 similar vehicles previously used on the 600-mile run between Bandarshapour on the Persian Gulf and Teheran, replacing camel trains.

Leasing Campaign in England

Anglo-Iranian Oil Co., Ltd., operating through its subsidiary D'Arcy Exploration Co., continued to expand its acreage in England granted for exploration under a system of licensing. The government has granted license within the past three weeks to D'Arcy Exploration Co. covering additional area of 638 square miles. Included in the new licenses granted D'Arcy are those covering 535 square miles of new area and 103 square miles extending previous licenses.

Land is now held under government prospecting licenses by D'Arcy, Anglo-American Oil Co., (Standard of N. J.) and Steel Brothers in 19 counties of Great Britain mostly concentrated along the southern shoreline. D'Arcy now holds prospecting licenses covering 7,584 square miles; Anglo-American holds 490 square miles and Steel Brothers, 350 square miles.

The new licenses granted D'Arcy Exploration Co. on 535 square miles of land are in Derby, Stafford, Southampton, Wilts and Chester counties. Previous prospecting areas in Dorset, Southampton, Sussex and Surrey were extended by 103 square miles.

D'Arcy Exploration is now in process of plugging its No. 1 Portsdown test for abandonment after drilling to 6,556 feet without obtaining evidence of commercial possibilities. The company's No. 1 Henfield test is now drilling at 4,953 feet in lower lias without encouraging showings. Negotiations are still under way with land owners at Kingsclere, near Newbury, and at Cousland, near Dalkeith, on details of starting drilling operations. Core drilling is to be started soon at Eskdale and Toxwell with a view to more accurate determination of structural position. In addition to core drilling activity, D'Arcy Exploration is carrying on an extensive surface geological program and has several seismograph crews in the field.

Austria's Crude Production

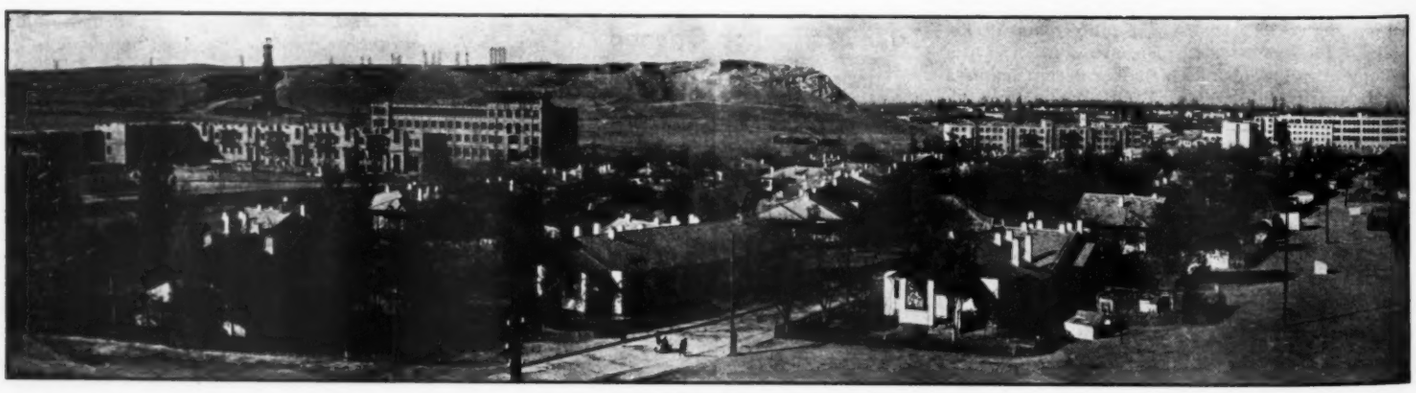
When final 1936 production figures are available, it is expected that Austria will show a total of about 85,000 bbls., comparatively small but of more noteworthy importance considered in light of 1932 production for that country which was 840 bbls.

At the close of the year, Austria was reported producing from 9,100 to 10,500 bbls. per month by the bureau of foreign and domestic commerce. On the year-end basis, Austria may account for 110,000 to 125,000 bbls. in 1937, equivalent to about 5 per cent of its consumption.

The Austrian "Raky Danubia" Oil Co.'s last completion reported in the Zistersdorf district, northeast of Vienna, is reported producing about 70 bbls. daily.

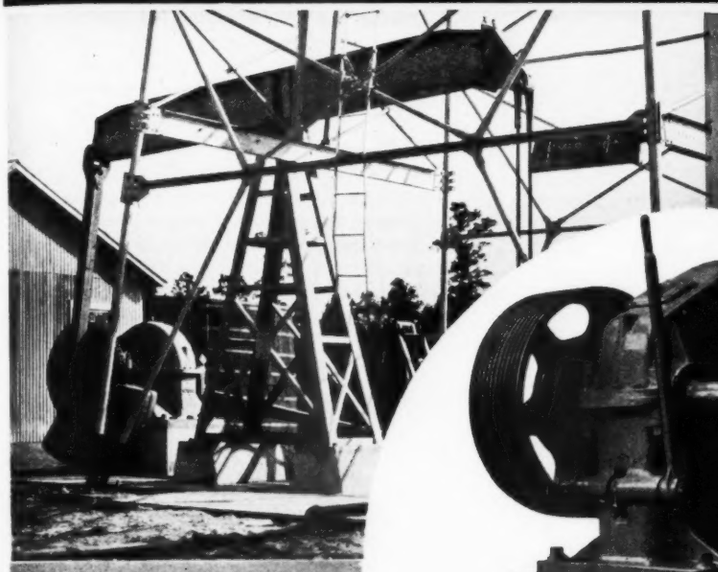
Mexican Production

Mexico's crude oil production during February is estimated at 3,922,929 bbls. by the Ministry of National Economy. Revised figures for January production place the yield at 4,233,635 bbls., down somewhat from original peak estimates which were based on a miscalculation, the ministry reported. Production during February, 1936, totaled 3,286,506 bbls.



Baku, oil city of U.S.S.R.—(Sovfoto)

«REDUCTION»
««GEARS»»



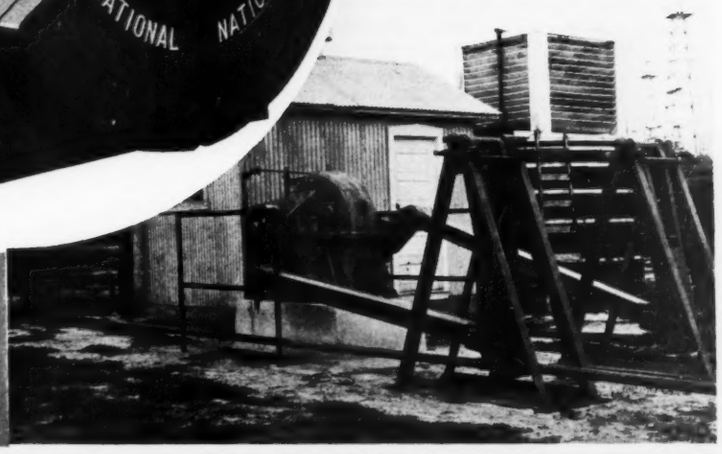
National Reduction Gears offer all around utility for pumping.

They may be installed on individual pumping units to pump several wells by the addition of back crank equipment or single wells as conditions dictate.

★

★

When used with two back cranks as central Powers, they provide an efficient low cost installation, possessing great flexibility in handling increasing well loads economically.



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National

THE NATIONAL SUPPLY COMPANY OF DELAWARE

DIVISION OFFICES: PITTSBURGH, PA., FORT WORTH, TEXAS, TULSA, OKLA., TORRANCE, CALIF. · MAIN OFFICE: TOLEDO, OHIO

Pipe Line Activity

Texas-Empire Line

Following up a general plan for increasing the capacity of the Texas-Empire Pipe Line Co. system orders have been placed with manufacturers for new pumping units and contracts let for the laying of several additional loops and the completion of loops laid last year to increase the system's capacity from 78,000 to 84,000 bbls. daily. The new pumping equipment will be installed at the Mattoon, Ill., station on the line running to Lawrenceville, Ill., refinery. Another unit is to be added at Eldorado, Kans., on the recently laid 10-inch line.

New pipe is to be laid in the form of a 6.38-mile 12-inch loop between Heyworth and Fairbury, Ill., 1.39 miles of 12-inch loop between Fairbury and Wilmington, Ill., and 17.56 miles of 10-inch loop between Manhattan Junction and Lockport, Ill. It is also planned to increase the capacity of the Kansas 10-inch lateral by adding additional pumping units. It is estimated this program of expansion will involve the expenditure of about $850,000 within the next few months.

The additional pumping equipment is being added to provide ample power to handle the full capacity of the system at all times and also to permit the shutting down of units in the various stations for repairs or overhauling without decreasing the rate of oil movement through the pipe lines. This will mean the system is being placed in condition to handle the maximum load during the summer to satisfy the increased demand from refineries served by this pipe line system.

Of the new units to be installed four will be diesel driven pumps with capacity of 30,000 bbls. per day and one unit will be rated at 35,000 bbls. capacity. The other units will be smaller and will be so equipped that either electric or diesel engine power may be used. These standby units are to be added to the pump stations at Sheldon, Lowry City, Pisgah, Center, Virginia, all in Missouri, and Heyworth and Fairbury, Ill.

Arkansas Project

SHREVEPORT, La.—It is reported Lion Oil Refining Co. is surveying for a new line from its El Dorado refinery to apparent pool opener in its No. 1 Morgan, section 18-18-17, about 12 miles southwest of El Dorado, Ark.

Panhandle Eastern Additions

KANSAS CITY, Mo.—The Kansas State Corporation Commission has certified sufficient security issues of the Panhandle Eastern Pipe Line Co. to enable it to make extensive additions to the company's present pipe line, compressor stations and gasoline plants in the state and to drill additional gas wells to serve the company's gas distribution system stretching from the Panhandle fields to Detroit, Mich.

Certification of these securities is particularly significant to producers in the Hugoton field, Kansas, where the company is expected to drill approximately 20 gas wells and to make connections to about that many additional wells controlled by other operators.

The company also contemplates looping the existing gas line at certain points and will increase the capacity of several of its compressor stations. Within the past year additional stations were constructed in Kansas, Missouri and Illinois.

Gulf Pipe Line Valuation

A tentative report placing a final valuation of $34,380,556 on the total owned properties of Gulf Pipe Line Co., as of December 31, 1934, was issued by the Interstate Commerce Commission in Washington last week. Total properties used were valued at $33,995,954, while owned and used properties were valued at $33,750,000. The valuation includes $380,556 for properties owned but not used, which are leased to Houston Belt & Terminal Railway; Gulf Refining Co., and some which are out of service. It also includes $245,954 for properties used, but not owned, which are leased from Texas & New Orleans Railroad, Gulf Production Co., and other private parties.

Phillips Kansas Loops

Phillips Petroleum Co., through its subsidiary, Standish Pipe Line Co., will immediately increase the capacity of its western Kansas crude oil pipe line system from 17,000 to 25,000 bbls. daily, officials announced. A total of 93 miles of main line will be looped and additional equipment installed.

Intangible Tax Sustained

AUSTIN, Tex. — Constitutionality of the law taxing intangible values—those found to exist in excess of actual property and assets—was in effect sustained by the Texas supreme court.

The court refused a writ of error for review of an attack on the law brought by Texas Pipe Line Co. Refusal of the writ implied approval of the opinion by the Third Court of Civil Appeals, which upheld the law.

Texas Pipe Line Co. had attacked the law charging discrimination and violation of due process clauses of the state and federal constitutions.

Under the intangible assets law, the state tax commission finds the values of oil pipe line intangibles and certifies those values to the counties through which the lines pass, to be taxed at the regular ad valorem tax rate.

Because the law has been in the court almost constantly since oil pipe lines were added to the class paying a tax on intangibles, practically no tax has been collected. The present tax commissioner, A. K. Daniel, wrote the law when a member of the house.

Trans-Pecos Line

ARTESIA, N. Mex.—Rapid progress is being made on the new crude line of Trans-Pecos Pipe Line Co. in southeast New Mexico. The 4-inch gathering line system is about complete and work has started on the main line. Three 55,000-bbl. tanks at Dayton are being taken down and will be moved to the new line, one at the pump station near Maljamar and two at Lea. Terry Hornaday is manager of the project.

Freestone County Loop

FORT WORTH, Tex.—The pipe line division of the Gulf Refining Co. is completing laying of 14 miles of 8-inch line east from Fairfield in Freestone County, forming another loop on its main line from West Texas to the Gulf to increase the capacity of that line.

Natural Gas

Industry to Aid in Safety

Technical assistance of the gas industry in drafting a comprehensive code to promote safety and prevent recurrence of the London disaster were offered to the Texas legislature in a telegram to Governor Allred from L. B. Denning, president of the Lone Star Gas Co.

"The New London disaster impresses upon the gas industry of Texas the imperative need of a comprehensive, rational safety code for the use of natural gas generally and particularly in public buildings," Mr. Denning wired as immediate past president of the American Gas Association. His offer was based on conferences with other utilities, including the United Gas System of Houston.

Joining in the offer is the American Gas Association whose testing laboratory has for years worked to promote safe standards, particularly through safe gas appliances and equipment in cooperation with the Bureau of Mines, the Bureau of Standards and the National Board of Fire Underwriters.

"For many years," Mr. Denning said, "we have observed practices in connection with the use of gas which we believe to be wrong and unsafe but which the industry was powerless to control. Lone Star Gas Co.'s technical and engineering staff and its entire organization are available to the state to the end that such a comprehensive, rational code may be enacted and put in force. I feel convinced that the entire industry of the state will cooperate in every respect.

"The injection of malodorant is only one element to be considered, for the reason 16,000,000

Soap bubble test of a section of pipe before laying in ditch

customers are using manufactured gas which has a very distinctive odor and such odor has proven to be ineffective in eliminating explosions.

"We should like very much to see the subject given careful study and consideration by representatives of the state, the gas industry and appliance manufacturers to the end that a safety code may be enacted that will do everything humanly possible to promote safety and prevent recurrence of the disaster at London.

"Lone Star organization particularly and the industry generally are constantly studying safety problems and have accumulated a great deal of data and experience. We believe we could be of real value to you and the legislative authorities, working in cooperation to set up a proper safety code."

Sour Gas Hearing April 13

The Texas Railroad Commission will hold a hearing at Austin on April 13 to determine whether new rules are required for the East Panhandle field, which is composed of Gray and Wheeler counties.

Natural Gasoline

Form Gasoline Company

FORT WORTH.—The Landreth Production Co. and Phillips Petroleum Co. are forming a new corporation to be known as Landreth-Phillips Gasoline Corp., for the purpose of erecting a casinghead gasoline plant and operating it in the Goldsmith field in Ector County, Texas. Engineers of the two companies are now working on plans, designs and construction details of the plant, to be erected immediately. It will consist of two units each having a daily capacity of 50,000,000 feet, built so as to permit enlargement when and if necessary.

New Gasoline Plant

MALAKOFF, Tex.—Fred M. Allison of the Cortex Petroleum Co., independent operator, has ordered equipment for the first unit of the Cayuga natural gasoline plant. It will be built on the Litchfield tract south of Malakoff and near the Henderson-Anderson County line, in the East Texas region. The plant will process natural gas from wells in the Cayuga field.

Continental to Build

Preparations have been made by the Continental Oil Co. for the construction of a natural gasoline plant at the Gillis field in Calcasieu Parish in Coastal Louisiana and actual construction is expected to start within the next two weeks.

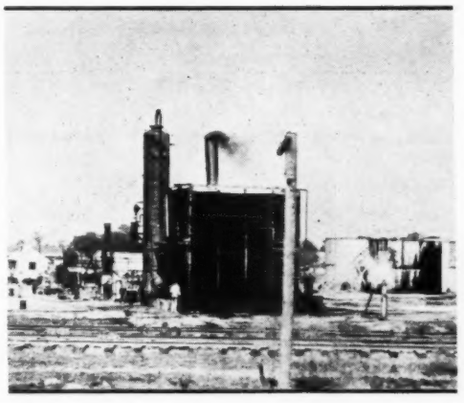
The company has contracted for 7,000,000 feet of gas daily from Fohs Oil Co. and when the plant is placed in operation the company expects to recover approximately 3,500 gallons of gasoline daily. The plant is to be located on the west side of the field on the Henry Powers tract.

Propane-Butane Disposal

Furnishing gas to homes in Winslow, Ariz., has relieved Continental Oil Co. of the problem of disposing of the propane and butane fractions at Rattlesnake Dome in northwestern New Mexico, according to R. S. Shannon, production superintendent of the Rocky Mountain area.

Arizona Gas Co., which distributes the town fuel supply, purchases about 20,000 gallons of these products per month during the winter. They are liquefied under pressure at the field, and carried by truck at night, 250 miles into the town.

Refinery Expansion



First refinery in Talco field, Texas. Most of the equipment was from dismantled plants in East Texas

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Delay Test Procedure

NEW YORK. — Division of motor fuel knock-testing methods first proposed by Ethyl Gasoline Corp., to its licensees on October 27, 1936, has been postponed for another 30 days, or until April 30.

The last postponement period was to have expired on March 31. In announcing the further delay, Ethyl Gasoline Corp. spokesman said that study of the problem has resulted in development of a knock-testing method which is apparently reasonably satisfactory. "However, the technical representatives of our licensees have requested us to delay the adoption of this method for one more month in order that final checks may be made, and statistical data accumulated on the ratings of commercial fuels by the new method," the statement concluded.

Necessity for alteration of the existing testing methods was developed by Ethyl Gasoline Corp., in an exhaustive series of road tests in California and Oklahoma under varied temperature and atmospheric conditions. The tests carried on by Ethyl were reported to show wide variations in the C.F.R. method of testing and the actual road performance of many fuels.

New Colorado Refinery

The Bay Petroleum Corp. has awarded a contract for construction of its new refinery on the Brighton road, north of Denver, to Ampco Co., of Dallas, and construction is to start at once. The plant will have a daily charging capacity of 1,650 bbls. A license agreement also was signed with the Universal Oil Products Co. for a Dubbs cracking unit of 900 bbls. capacity. The latter will be of the multiple coil, selective cracking type. Investment will be approximately $350,000. The plant will run on mixed crude purchased from the Ohio Oil Co. and will include crude from the Medicine Bow field in Wyoming.

Decentralize Ethyl Production

A new Ethyl fluid plant under construction at North Baton Rouge, La., is to be the first step in the decentralization of plants manufacturing ingredients for leaded gasoline, it is announced by the Ethyl Gasoline Corp.

The plant, which is being built by E. I. du Pont de Nemours & Co., is expected to be ready to commence operations by next July, employing an operating personnel of 150 men. Paralleling the work of four production units at Deepwater, N. J., the new facilities are planned for a production capacity equal to 20 per cent of Ethyl's anticipated 1937 business.

Later a second unit will be built at North Baton Rouge, enabling the company to supply demands for antiknock gasoline in the Southwest and on the Pacific Coast from the Louisiana plant, and effecting a substantial saving on shipping costs under existing rates.

Tower Capacity

The countercurrent contacting tower adapted in Freedom Oil Works Co.'s chlorex solvent extraction plant at Freedom, Pa., and described on page 61 of the Annual Refinery Engineering number, The Oil and Gas Journal, March 25, is handling 600 bbls. of steam refined cylinder and bright stock and 1,000 bbls. daily when working on neutral oils.

This tower was placed in service during the latter part of 1936 and has given satisfactory results during the past six months of operation at the rates assigned.

Install Gray Treater

FORT WORTH.—Olney Oil & Refining Co. has just completed and put in operation a Gray clay treating plant at its refinery at Olney, Tex. The clay treating plant is directly connected to the company's Donnelly-licensed cracking unit. Previously the refinery had been acid treating and rerunning its cracked gasoline. The new clay treating installation has resulted in an improvement of more than two points in the octane number of the gasoline.

Start Operation

The Northwest Refining Co.'s new refinery at Cut Bank has begun running crude in its first unit, which will recover gasoline, distillate and fuel oil. The cracking unit has not yet begun operations. The plant has a capacity of 2,500 bbls. daily.

Increase Michigan Plant

WEST BRANCH, Mich. — Producers Refining, Inc., is considering expansion of its 1,500-bbl. skimming plant here to 1,800 bbls., according to Carl J. Westlund, president, formerly a distributor of petroleum products in Muskegon.

Mr. Westlund announced recent runs ranging from 1,000 to 1,200 bbls. daily have been insufficient to meet market demands so throughput will be increased to about 1,500 bbls. The company has an adequate supply from the Ogemaw field, it was said.

Reduction in Oil City

OIL CITY, Pa.—Gas rate reductions that will affect consumers in 15 northwestern Pennsylvania counties, including the entire Oil City district, were announced by United Natural Gas Co., Manufacturers Gas Co. and Smethport Natural Gas Co. The new rate involves a change from the present 65-cent net rate to a sliding scale basis which automatically gives lower rates to all customers who use over 3,000 feet of gas in any month. The new schedule follows: First 3,000 feet, 65 cents per thousand; next 4,000 feet, 60 cents per thousand; next 8,000 feet, 55 cents per thousand. Over 15,000 feet, 50 cents per thousand.

the OIL AND GAS JOURNAL

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A Step Further

Present methods of regulating oil production are by no means the last word in proration. The regulatory bodies of the various states and the Interstate Compact Commission have done good work but we are entering a new phase.

Existing regulations were worked out on an emergency basis, but the emergency is over. Methods aimed for a paramount purpose could not afford delays to smooth over rough spots. Criticisms were subordinated for the same reason, the general approval of the program as a whole, even at the cost of individual sacrifice.

But, with the passing of the emergency and the accomplishment of stabilization, the time has arrived, many think, for further adjustment of the regulations in line with present operating knowledge and with the equities of the situation.

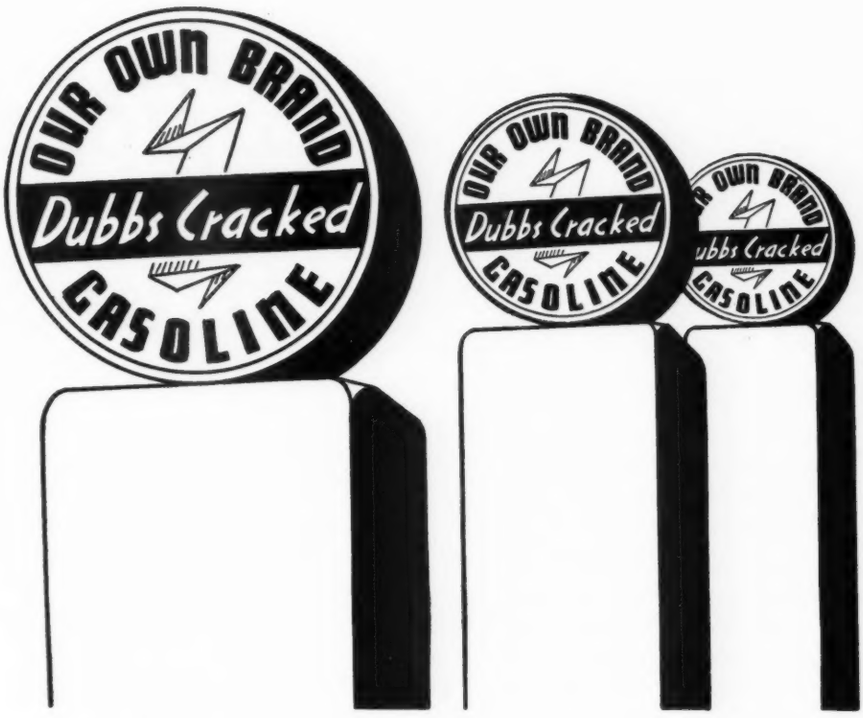
If conservation is to be maintained proration should be fair both between the states and within the states. If one state has an advantage from its regulations over another, capital necessary for development of petroleum resources will naturally flow to the state offering such advantages rather than to that at a disadvantage.

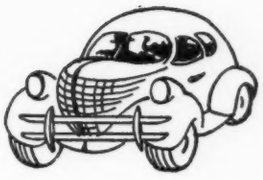
And within the state care must be taken to avoid regulations which in effect will discriminate against one field or area over another. The general regulation which allots the same rating to wells of the same size, regardless of differing drilling investment or cost of operation, puts a premium on the less costly well and a penalty on the other, possibly to the extent of postponing development of the field or area so affected.

Operators have learned a lot about production and development methods since the original proration regulation. They are now in position to give the regulatory bodies the benefit of that knowledge and experience for recasting the regulations upon a basis that will be more equitable and more effective in real conservation.

State regulatory boards should keep informed of these developments and, profiting from the data gained by producers in actual operations, revise the regulations wherever it is necessary to meet the special requirements of any particular field or area because of sand conditions, gas or water pressures, capital or operating costs, or other sufficient reasons.

Blanket regulations served their purpose well but it is becoming necessary to go a step further and apply them to particular conditions if equity and conservation are to be promoted. Failure to realize this might easily result in a threat to the entire conservation program.





Sell it in sign language

IF you are selling Dubbscracked gasoline in secret you are throwing away a big sales advantage that you ought to cash in on

Dubbscracked gasoline is anti-knock, long-mileage gasoline Gradually your customers will find that out but they won't know why

And why waste selling time?

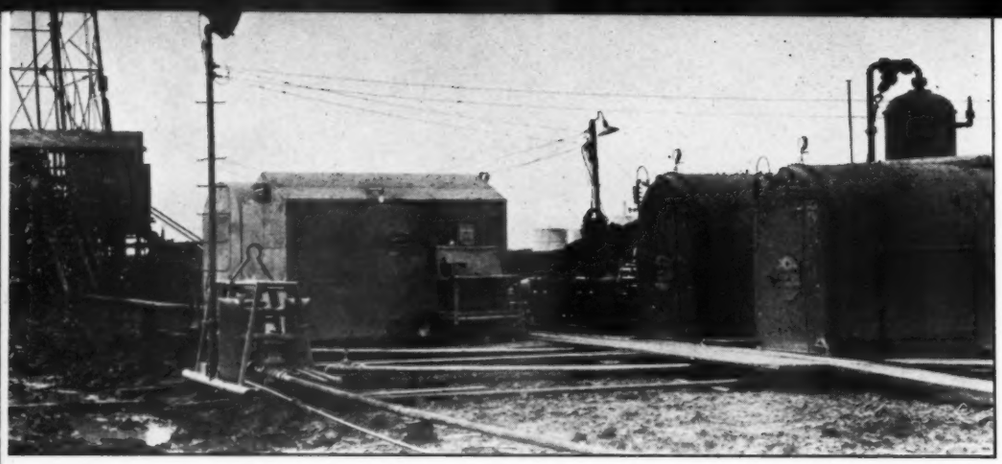
Tell 'em it's Dubbscracked—that's why it's good

Your pumps can't talk but they can sell in sign language and every sign ought to tell the motorist it's YOUR Dubbscracked gasoline

Give them the real reason why your gasoline is better—because it's Dubbscracked—and the gasoline will back up your claim

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor



Boiler fuel-gas regulator and stack blower control equipment at a Humble well in the Anahuac field

Efficient Humble

By NEIL WILLIAMS

Through substantial reductions made in the time required for drilling and completing wells, Humble Oil & Refining Co. has been able to expedite its development program in the Anahuac field, Chambers County, Texas Gulf Coast. This, with other economies made in drilling practices, has enabled the company to effect important savings in costs of completed wells.

Well time in the field has been lowered to such a point that with four company rigs running, from five to seven wells are being completed monthly. With the depth of these wells at 7,100 feet, this rate of completion ordinarily would not be possible without a much greater number of rigs. The shortest time in which any of the wells have been completed so far has been 14 days. One well last September was drilled in that time. During the same month two 15-day wells were drilled. A regular schedule of 15 days per well is now being attempted. The average time required for more recently completed wells has been 17 days.

A total of 119 days was required for the discovery well, completed March 2, 1935. At that time, however, there was no knowledge of the formational and structural conditions of that area, and much coring had to be done which took considerable time. Nine days were spent in fishing and sidetracking, and otherwise much extra time incidental to a wildcat test was required.

By September, after six months operating in the field, the average well time had been cut to 32 days. Each month following that until October, 1936, additional savings in well time were made. In September, 1936, the average well time was 16.5 days, the lowest average for any month so far. This was the month that included the 14-day well and the two 15-day wells. During October, November and December the average time increased, reaching 25.6 days in December.

This increase was attributed to various factors. One of these was occasioned by the development of the R. W. White lease on the north end of the field which took place at that time. This lease was drilled for the most part by contract rigs, and the same systematic procedure of operations was not followed by the contractors as was done on company owned rigs. Also that lease did not have the suitable road network provided in other parts of the field to facilitate transportation of equipment and supplies. Another factor was occasioned by a change in casing program which was made about that time. This change permitted the drilling of smaller holes, and with the smaller holes greater difficulty was experienced in maintaining straight holes. Drilling was noticeably slowed up by this practice. Since December well time has been reduced, with the average time per well in January being held to 18.2 days. The problem of maintaining vertical holes in the smaller holes is gradually being overcome, and operators expect to get the wells down to the 15-day schedule planned.

Table 1 shows a breakdown of the average well time per month, including wells on the R. M. White lease, for the five-month period from September through January, with the record of the discovery well, completed in March, 1935.

This decrease in drilling time is reflected further in another accompanying tabulation (Table 2) and an accompanying chart showing the average drilling time per 10 wells in order of completion following the discovery well. This table and chart exclude the wells on the R. M. White lease many of which were drilled by contract rigs and under conditions not representative of the major part of the company's operations in the field.

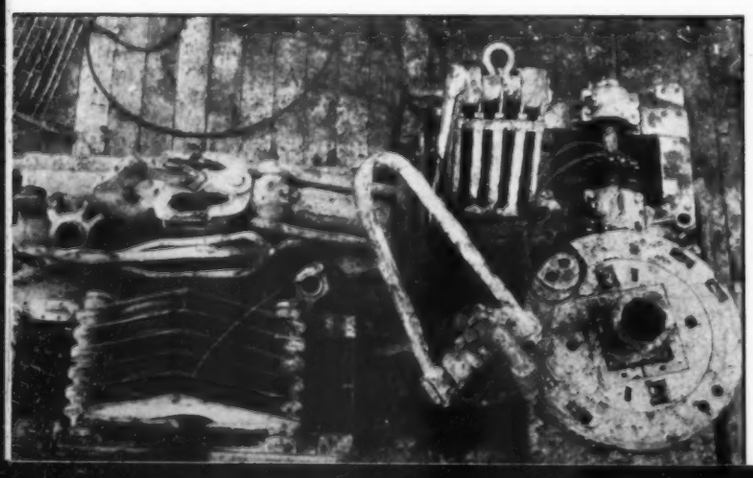
TABLE 1—AVERAGE WELL-DRILLING TIME

	*March, 1935	Sept., 1936	Oct., 1936	Nov., 1936	Dec., 1936	Jan., 1937
Number wells completed	1	7	5	5	5	5
Total footage	7,088	49,623	35,429	35,460	35,673	35,545
Average well footage	7,088	7,089	7,086	7,092	7,134	7,109
Distribution:						
Rig up time (days)	10⅓	1.1	1.0	1.03	1.1	1.3
Tear down time (days)	⅔	.5	1.0	.74	1.0	.9
Drilling time (days)	53⅓	7.5	11.0	9.34	9.5	8.0
Casing and cementing (days)	13	4.5	5.0	5.24	5.4	4.6
Completion time (days)	2⅓	1.1	1.0	1.38	1.6	1.1
Coring (days)	6⅔	.5	.7	.59	1.2	.3
Miscellaneous (days)	†32⅔	1.3	.3	4.75	†5.8	§2.0
Average per well (days)	119	16.5	20.0	23.97	25.6	18.2
Average per well:						
Total depth	7,088	7,089	7,086	7,092	7,134	7,109
Footage/drilling day	14.3	955	771	750	753.7	740
Hours rotating‡	....	146	165	154.55	153.9	¶45.7
Hours reaming	....	5.4	9	5.55	7.7	....

*Discovery well only. †In discovery well seven days spent fishing and sidetracking; in December all rigs shut down Christmas. ‡Includes hours reaming. §Includes 1.1 days repair time. ¶Percentage of total time.

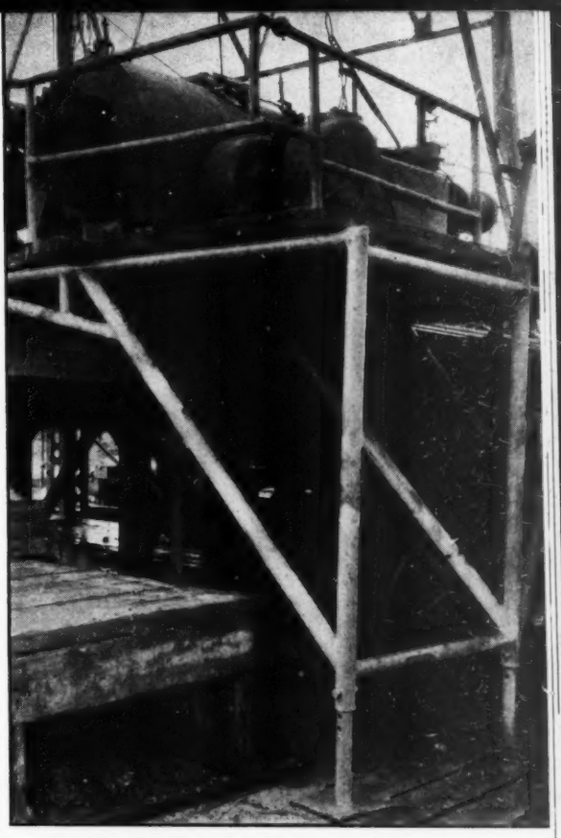
It will be noted in the tabulations that the average time required for rigging up and tearing down represents a very small percentage of the total time in comparison with the time usually required for this work in deep-drilling operations. Special consideration has been given at Anahuac to the development of ways and means for minimizing the amount of time involved in tearing down, moving and setting up rigs. It is figured that every unnecessary hour consumed in moves is that much time which can be utilized in making hole. As the time of a rig at Anahuac is computed to be worth $15 per hour, every hour a rig is needlessly kept from making home is that much wasted expenditure added to the cost of a well.

Dismantling a rig usually is start-



Heavy-duty skid for moving rotary, blocks, hooks and swivel. All equipment is placed on skid in the order it will be needed for assembling the rig

Practices Enable to Cut Well Costs



Portable platform for the wire line coring reel; the platform and coring equipment being moved from well to well as needed

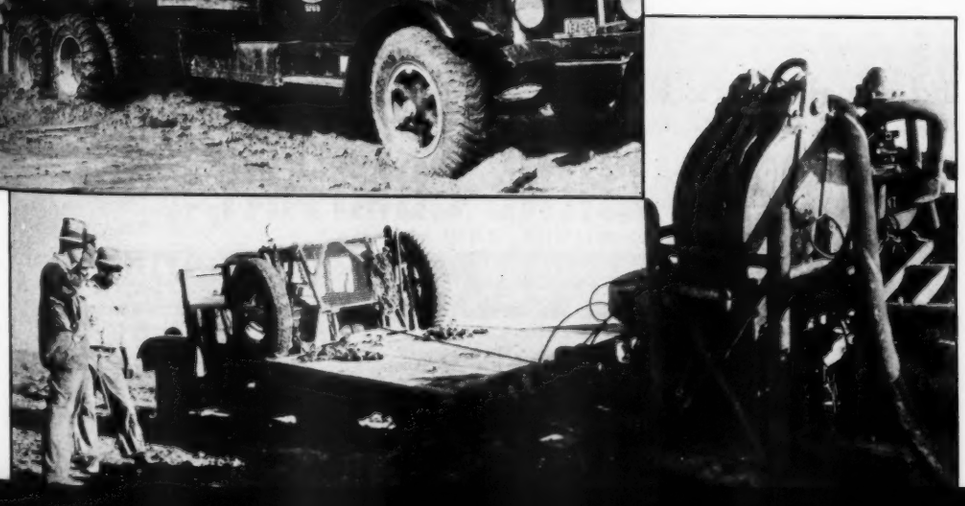
ed before a well is entirely completed. Use of the wire-line reel for swabbing permits disconnecting the engine and drawworks and moving off these units. At the same time miscellaneous small equipment and tools around the rig are assembled and placed in order for moving.

All the major units used at wells, such as the engines, drawworks, mud pumps, boilers, are mounted on skids and are moved intact. Also, special skids have been provided for the grouping of other units and miscellaneous pieces of equipment and tools. One such skid accommodates the rotary, traveling-block, crown-block, elevator and hooks, and swivel. This skid is so designed that each piece of equipment has a certain position, in which it fits in order as dismantled. In setting up a rig, these units come off in order of assembly. This skid permits the hauling of these units as a group on one truck load. If these units were handled individually their irregular and awkward shapes would make moving more difficult and thus slow up the operation.

Delays in moving are minimized by having plenty of moving equipment on a job. This equipment usually consists of three tractors, one large and various small trucks, two crane trucks and sometimes a dragline. As much as four hours time has been saved on some jobs by use of a dragline to augment, or even replace a crane truck. In the systematic drilling program which is being followed, new locations are prepared well ahead of the rigs. On these, cellars and pits are dug and derricks erected in readiness for moving on the rigs. Whenever a well is completed there always is a new location waiting for the rig. Derricks over completed wells are torn down as quickly as convenient after rigs are moved off, and these in turn are erected on other new locations. About 12 derricks are in use.

Setting up of a rig is facilitated by the more or less standardized layout of equipment. When such a layout is measured off on a new location, the rig can be moved in and the various units placed in their respective set positions with a minimum of delay and with routine precision. Lines, fittings and connections usually fit with a minimum of changes.

By use of a combined kellyjoint protective casing and rathole, devised in the field, the time required for drilling and casing ratholes has been reduced from an hour or an hour and one-half to about 12 minutes. The device permits drilling and casing the rathole in a single operation. The unit consists of a joint of casing of the required size for the kelly with a left-handed bit welded on the bottom and a slush joint on top, the slush-joint liner and sub being threaded on top the kelly. The rathole is drilled with the kelly in the joint of pipe. During the drilling of the well this joint of pipe is left in the rathole as casing. When the rig is being moved, the kelly (threaded back in the unit) pulls the pipe, which serves as a protective joint for the kelly until the rathole on the next location is drilled. During moves, the kellyjoint and the protective joint of casing are kept together at all times.



All drilling equipment is moved from location to location by trucks. At left, the drawworks loaded and ready to be moved to the new location. Below, moving the heavy-duty skid containing the rotary, blocks and swivel

Actual drilling of wells also has been greatly speeded up, and this has played an important part in the reduction of well time. Some of this reduction in drilling time has come naturally with increasing familiarization of formations and structural conditions in the field. The formations lend themselves to easy digging, and in the absence of any particular drilling hazards (such as shallow high-pressure gas sands) there is no occasion for slowing up drilling speed. Few sands of any kind are encountered down to the producing horizon. Uniformity of formations over the field has eliminated the need of much coring. In the first 50 wells considerable coring was done, but since then no coring has been done in any of the wells except for the producing section. For some time the whole sand section was cored, but now even that coring has been reduced to the actual saturated zone, eliminating coring the gas cap. The gas cap which covers approximately three-fourths of the area of the field, is topped at 6,723 feet at its highest point. The gas-oil content is at 7,020 feet, so coring in a well now starts at about 7,000 feet. As wells usually are completed about 55 feet above the water level at 7,140 feet,

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coring is confined to a section of less than 100 feet. Markers are determined entirely by cuttings. The first marker, the Discorbis, is not encountered until around 5,900 feet, and down to about this depth no particular attention is paid to the cuttings. A wire line core-barrel is used, coring being done with a 6¾-inch bit. Not more than seven or eight cores are taken, and total coring time now has been reduced to less than one day. Because of the limited amount of coring in a well, the wire line reel and engine and core-barrel are not kept on a rig during drilling of the well, but are moved in only when the coring, or swabbing is to be done.

Humble rig in Anahuac

A portable platform for the reel and engine has been designed. This and the coring equipment are moved from rig to rig as needed. This has saved an investment in wire line coring equipment for each rig which would be used only for less than a day's time during the course of drilling a well.

The platform and reel can be placed in position in 10 minutes by two men and a crane truck. The frame of the platform is built of 3½-inch drill pipe and 2½-inch line pipe, and is of welded construction. It is attached to 3-inch by 12-inch channel-iron, on which the derrick floor sills rest, next to the ramp, by three 1-inch by 14-inch U-straps. The bottom of the frame is fitted with three adjustable footing forms of 2⅝-inch mill round steel which slip into the 3½-inch drill pipe legs.

Drilling is pushed as rapidly as possible in a well down to a depth of about 5,500 feet, approximately 400 feet above where the first marker is encountered, at which depth it is the practice to start building up the weight of the mud. The first 1,250 feet of hole for the surface casing usually is made in from 8 to 10 hours. Running and cementing of the 1,250 feet of surface casing usually is completed within 16 hours from the time the rig is completed. Cement is allowed to set an additional 36 hours. Plug is drilled after the fourth day from the time the rig comes on location, and in the next 24 hours from 1,300 to 1,400 feet of hole is made. From 2,500 to 5,500 feet, about 1,000 feet of hole is averaged daily. After retarding the speed of drilling at 5,500 feet only 500 to 700 feet of hole is drilled daily.

TABLE 3—TOTAL COST OF A TYPICAL WELL

Labor	$4,605.83
Transportation	1,008.04
Casing and tubing	10,154.86
Miscellaneous well equipment	1,115.18
Rig and derrick rental	3,161.25
Rig maintenance, repairs and supplies	3,671.61
Fuel and water	389.10
District expense, compensation insurance, etc.	1,253.74
Total drilling cost	$25,359.61

To obtain the maximum footage per rig time, efforts have been directed to development of facilities and practices having as their purpose the elimination of as many roundtrips as possible.

One of the factors in increasing the rotating time and increase in footage has been the use of a new type bit, built with an extra long shank and containing four water-courses with hard-surfaced slush tubes. With the larger and heavier shanks and the hard-surfaced slush tubes, there is less tendency for the bits to cut out from turbulence. Short shank and lighter bits had a tendency to cut out and usually had to be pulled every 24 hours for inspection. The new type bits can be kept on bottom longer, and thus save roundtrips. At the same time the four water-courses, with outlets lower on the blades, not only direct the fluid over a wider cutting range but also permit a much greater volume of fluid at the bottom of the hole. This lessens dulling of blades. Due to this, and also to the greater volume of fluid, drilling is facilitated. Full-hole tool joints on the drill pipe permit the pumping of greater volume of fluid to bottom with relatively lower pump pressures.

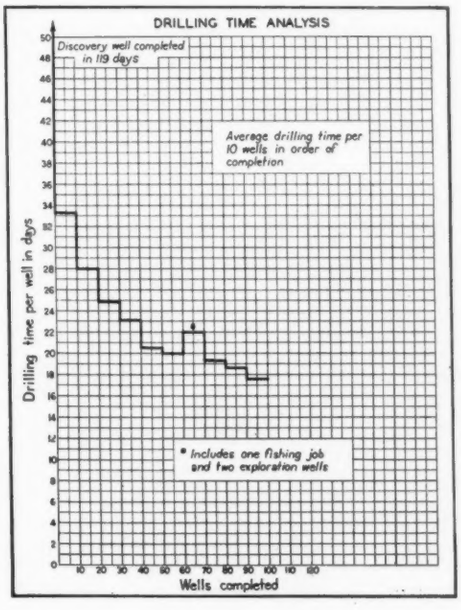
To insure ample pump pressures and fluid volumes, 20-inch pumps are standard equipment. They also serve as a precaution against mechanical failures which might arise from possible overloading of smaller equipment. Two 125-horsepower, 300-pound working pressure boilers generate the steam power for the rig. Through special hookups, Humble has been able to attain a high degree of efficiency in power generation.

Reductions which have been made in time required for drilling and completing wells, and the minimizing of idle rig time, have been largely responsible for the steady lowering of total well costs at Anahuac. The cost of a completed well now is down to a figure approximating $25,000, which, considering the 7,100-foot depth of the wells, is looked upon as an unusually low figure. The above figure is exclusive of the cost of lease, tankage and lines from a well to tankage. These low well costs are indicated in Table 3, and are based on the average costs of four typical wells; including two 20-day wells, one 18-day well, and one 17-day well.

Centralized separator and tank batteries are provided for each lease. These installations are located as near the centers of the respective leases as possible. On a fully drilled, normal lease (a section square) the central battery will serve 32 wells. There are 25 batteries in the field, and as of March 11, these were serving 128 wells. At present 17 wells is the largest number flowing into one battery. The cost of a single battery is approximately $5,400, making the cost of tankage per well dependent upon the number of wells per battery. Flow lines average $500 per well, due to the centralized battery installation. As the leases generally are of section size, as much as a half mile of pipe may be required for a well. The line, which carries the well pressure, must be ditched a sufficient depth (usually 18 inches) below the surface to place it out of danger of being broken by trucks or tractors.

Substantial savings in well costs have been made within recent months by a reduction in the casing program. The original program consisted of 1,500 feet of 10¾-inch surface casing, with a 7-inch flow string. This has been changed to 1,250 feet of 9⅝-inch surface casing with 5½-inch flow string. The reduction was made in view of the fact that the wells are expected to have a long, unbroken life, and the smaller pipe will serve every production requirement.

For the surface string, 12¼-inch hole is drilled. As the surface formations give no trouble, conductor pipe is not needed. The surface casing is cemented with 155 sacks of cement. After the plug is drilled, the hole is reduced to 8⅝-inch for the 5½-inch oil string which is set in the oil sand, below the gas-oil contact at 7,020 feet, and cemented with 300 sacks of cement. A special string of 2⅞-inch external upset internal flush drill-pipe has been provided to drill the 5½-inch plug.


DRILLING TIME ANALYSIS
Discovery well completed in 119 days
Average drilling time per 10 wells in order of completion
* Includes one fishing job and two exploration wells
Drilling time per well in days
Wells completed

Time study made during drilling of 10 wells

As the sand core is taken with a 6¾-inch core bit, it is necessary to ream the hole to bottom before running the 5½-inch casing. It also is the practice to run an electrical coring survey.

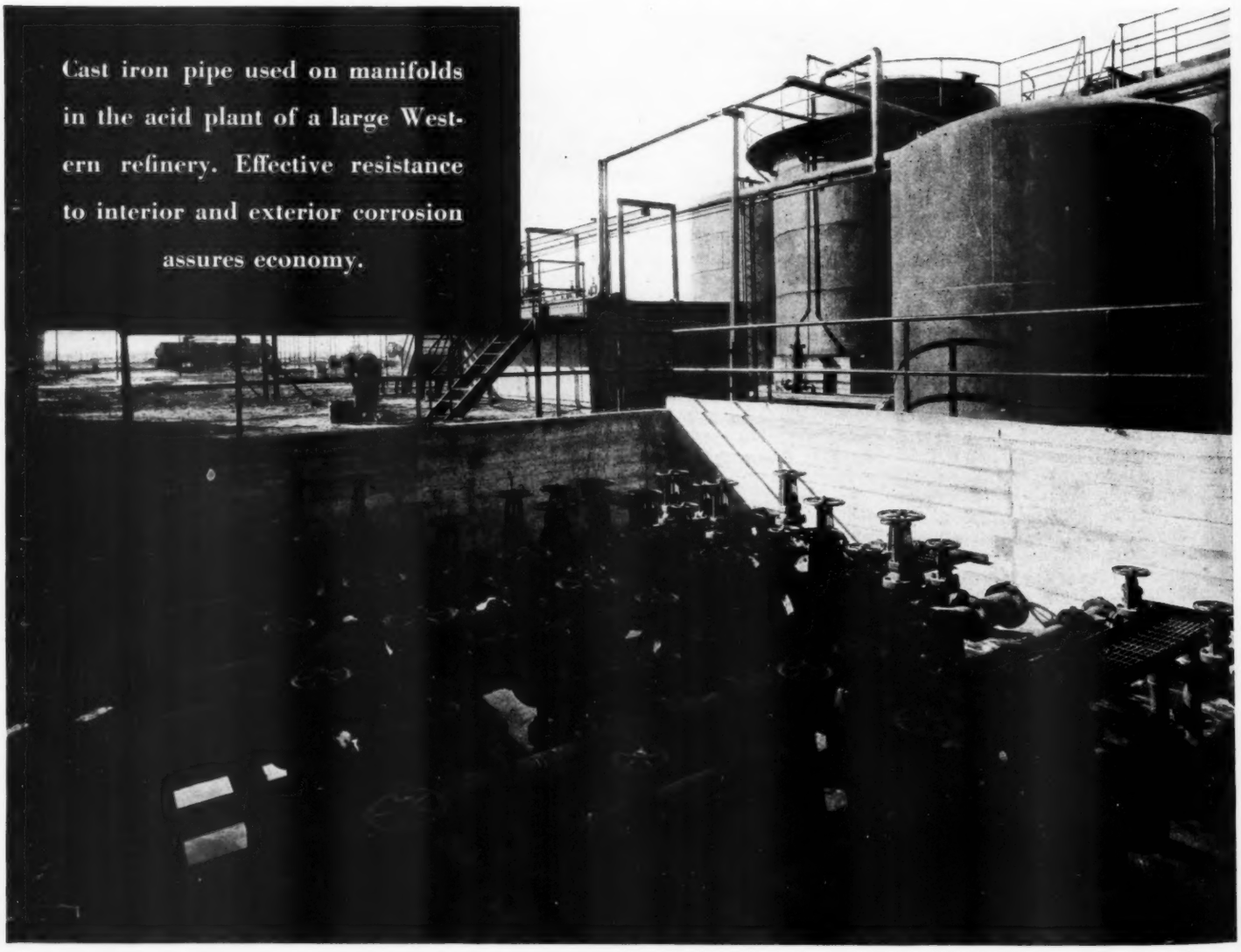
In completion of the wells, vertically slotted pipe is used instead of wire-wrapped screen. This pipe is run in on the bottom of a full string of tubing. Wells usually flow after washing although swabbing sometimes is resorted to. Initial production of the wells run from 600 to 700 bbls. through a quarter-inch choke on a 24-hour gauge, and have pressures of about 1,000 pounds.

TABLE 2—AVERAGE DRILLING TIME PER 10 WELLS IN ORDER OF COMPLETION FOLLOWING THE DISCOVERY WELL

	First well	1st 10	2nd 10	3rd 10	4th 10	5th 10	6th 10	7th 10	8th 10	9th 10	10th (9)
Rig up (days)	10½	3 6	2 5	2 1	1 8	1 8	1 1	1 3	1 4	1 2	1 3
Tear down (days)	⅔	1 1	7	.7	6	7	5	8	5	7	1 0
Drilling (days)	53⅓	14 6	13 6	11 0	9 9	8 4	8 7	9 6	8 2	8 8	7 8
Repairs to rig (days)				7	7	7	6	7	6	6	1 0
Casing and cementing (days)	13 0	8 6	7 2	6 0	6 7	6 0	5 1	5 2	5 0	4 6	4 2
Completing (days)	2½	1 5	1 7	1 4	1 3	9	1 6	1 5	1 5	1 0	1 0
Coring (days)	6⅔	2 4	1 7	1 8	1 2	1 4	9	1 0	6	.4	.4
Fishing and sidetracking (days)	7	2	1	1	1		.7	.2	.3	.2	
Slope tests (days)				3	.4	.3	.3	.5	.5	.4	.4
Miscellaneous (days)	25⅔	1 3	.6	.7	.4	.3	.4	1 2	.7	.7	.4
Total	119 0	33 3	28 1	24 8	23 1	20 5	19.9	22 0	19 3	18 6	17 5
Average/well:											
Total depth	7,088	7,125 8	7,094	7,087	7,086	7,173	7,080	7,081	7,098	7,093	7,089
Footage/drilling day	14 3	493 3	513	663 8	742	858 6	844	763	875	818	959 4
Hours rotating		240 2	222	199 3	180 1	162 3	160	171	148	153	135 7
Footage/hour rotating		30 5	32	34 3	40 3	43 8	44 9	42 4	48 8	46 6	54 4

CAST IRON PIPE CUTS COSTS in this and other large refineries

In many uses throughout the modern refinery cast iron pipe can and does save expensive replacements, thereby lowering the cost of plant maintenance per barrel of crude. It has higher resistance to corrosion and longer life than any other low-cost material suitable for the service. And in the end, it has considerable salvage value. Cast iron pipe is available in bell-and-spigot, plain and threaded ends, and flanged types, or with bottle-tight mechanical joints in diameters from 1¼ to 84 inches. For further information write to The Cast Iron Pipe Research Association, Thos. F. Wolfe, Research Engineer, 1013 Peoples Gas Bldg., Chicago, Illinois.



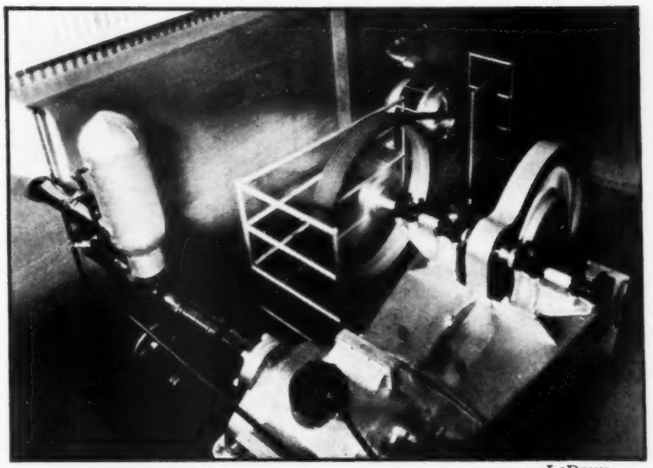
Cast iron pipe used on manifolds in the acid plant of a large Western refinery. Effective resistance to interior and exterior corrosion assures economy.

Magnolia Builds Electrically-Operated Pipe Line Station

By MITCHELL TUCKER

The Magnolia Pipe Line Co. has just completed the enlargement of its extensive crude oil gathering and transportation system at Rodessa, which now provides that field with its largest outlet, having a daily capacity of 27,000 bbls. The 500-h.p. three-unit electrical main-line station, and the automatic electrical gathering-station handling about 20,000 bbls. daily, are the main features of the system.

Having a total of 126 well connections at the present time, the daily average movements from the field by this system last month was 25,750 bbls. The Louisiana side of the field accounts for 55 connections, and the Texas side 71 connections. Two centrally located gathering systems are employed in the field to serve the main-line station situated about 3 miles south of the town of Rodessa. From these oil is dispatched through the 23-mile, 8-inch extension line which connects with Magnolia's El Dorado-Beaumont line at Dixie, La.



—LeDoux

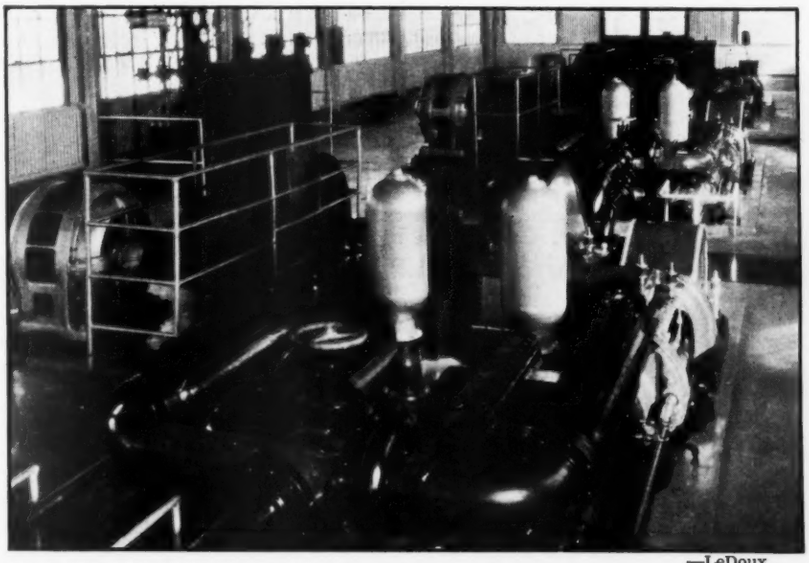
Twenty-five-horsepower motor driving suction pump at pit in main line station, which draws oil in from storage tanks and delivers to reciprocating main line pumps

The original Rodessa installation was a two-unit 20,000-bbl. daily capacity plant. One 5½-inch by 24-inch reciprocating pump, V-belt driven by a 200-h.p. motor, provides a 13,000-bbl. capacity unit. The second unit supplies an additional 7,000 bbls. capacity, and consists of a 5-inch by 18-inch reciprocating pump driven by a 150-h.p. motor, V-belt driven.

As Magnolia continued to develop its extensive leases throughout both the Louisiana and Texas sides of the field, this outlet proved inadequate and the third electrical unit was recently added to provide an additional 7,000-bbl. daily capacity. This unit consisted of a 5¼-inch by 18-inch reciprocating pump driven by a 150-h.p. motor, 2,200 volt, three-phase, V-belt driven.

These two expansions recently proved incapable of handling the daily volumes, and the next step in enlarging the system was to double the capacity of the Dixie main-line station, 23 miles south of the Rodessa station on the junction point of the Arkansas-Rodessa lines. Line pressures from Rodessa to Dixie were about 700 pounds at the time of enlargement, and only the very light quality of the Rodessa crude would permit movement of such volumes at this pressure with the present equipment. Automatic Mercoid switches are provided to shut down the station at a critical pressure of 750 pounds. After expansion of the intermediate Dixie station into a 35,000-bbl. capacity booster, comprising two 300-h.p., electrical-driven reciprocating pumps, the congestion was relieved, and crude movement was facilitated from this point to the Faulkner, Tex., main-line station on the Beaumont trunk line.

About 40 miles of 4-, 6- and 8-inch gathering and transportation lines throughout the field gather oil from the 126 present well connections. Two gathering stations are employed in the field, each so situated that the production from all properties will gravitate to them. The first gathering station completed was known as the Caddo Leevy Board Station, about 2 miles west of the Rodessa townsite and 4 miles from the main-line station.



—LeDoux

Recently enlarged three-unit 500-horsepower main line pump station at Rodessa

Here a most unique form of automatic electrical gathering station was installed. As the development of the field progressed westward into Texas, and the extensive Magnolia properties were drilled, another field gathering station was installed on the Robert Trammel Survey about 9 miles directly west of the main-line pump station.

Electrical power was not available in that portion of the field at the time of this installation, and a 7,000-bbl. capacity gas-gathering station was constructed, consisting of two 80-h.p. gas motors, driving by V-belt transmission, two separate reciprocating units, one a 5 by 7 by 10-inch pump and the other a 2½ by 5 by 10-inch pump. At the present time this plant runs at almost full capacity, and transports about 7,000 bbls. daily through the 4½- and 6-inch line to the main Rodessa station.

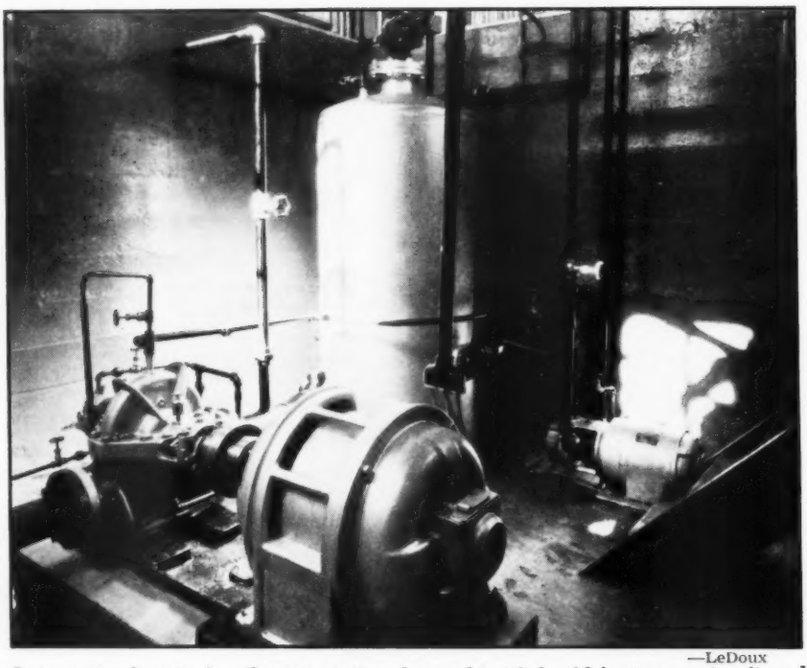
The automatic features of electrical power have been widely adopted to requirements in all divisions of the oil industry, but the completely automatic gathering plant such as installed at the Caddo Leevy Board gathering station was pioneered at Rodessa. The unit is now operating near capacity and handling from 19,000 to 20,000 bbls. daily. This unique installation is made in a 12 by 12-foot concrete pit (to afford gravitation from lease tanks). It was designed by Magnolia pipe-line engineers, and on its test here has proven entirely satisfactory after initial experiments were completed.

The accompanying photograph shows details of construction. The oil from the stock tanks is drawn through an 8-inch intake line into the small upright receiving tank as shown (an integral part of the unit), by a vacuum pump driven by a direct-connected three-phase, 60-cycle, 224/440-volt motor. Two floats operate in the receiving tank to control the operation of this suction pump, causing it to come to a stop when the contents of the tank rises to a certain level, and the other to start it again when the fluid level nears bottom.

Oil is picked up from the receiving tank by the driving agent, an automatically controlled centrifugal-pump propelled by a direct-connected three-phase, 60-cycle, 220-volt motor. The oil is then pumped to the working tanks at the main-line pump station about 6 miles away. The floats controlling this unit of the assembly respond to the supply and demand in and from the receiving tank. It shuts down the motor when the oil level lowers

to a critical point, and starts it up again when the oil level reaches the desired higher level. Both intake and driving motors receive their electrically automatic features from specially adapted Mercoid switches. The smoothness and efficiency with which this installation handles about 20,000 bbls. daily makes it outstanding among pipe line gathering stations.

Magnolia Pipe Line Co.'s decision to use manufactured electrical power purchased commercially was made even in the face of a plentiful supply of gas and water, or the high-gravity crude available for fuel purposes. Factors which prompted this decision were: Uncertainties connected with Rodessa field in its early life demanded lowest initial investment; widely variable load demand especially during development period; this was to be an outpost station and repair parts or mechanics would not be readily available; and by the fact that a large camp was to be built nearby and current for this purpose could be obtained through the same power account at much lower costs.

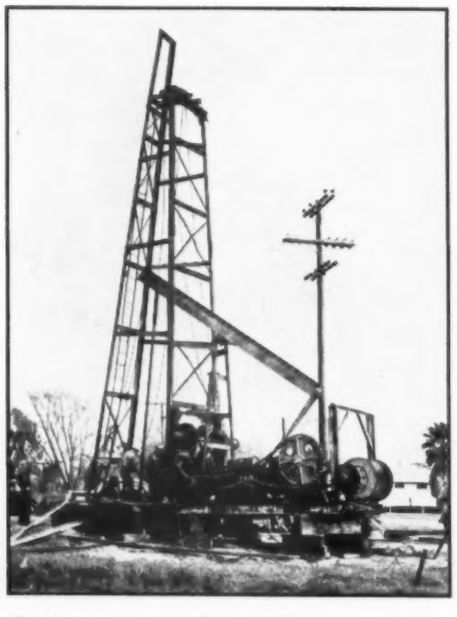


—LeDoux

Automatic electrical gathering station, housed in 12 by 12-foot concrete pit and handling about 20,000 bbls. daily

Combination Portable Drilling Rig Used in California Field

The drilling rig shown in the accompanying photograph can be used either as a cable-tool or a rotary rig. On the location shown it is being used only as a cable-tool rig, since the work to be done consists only of cleaning out and deepening an old well. When used in rotary work the machine is provided with a heavy 80-foot derrick, a derrick floor strong enough to support a rotary table with any load which may be placed on it, and one or two mud-pumps. The rig itself, without the derrick, is mounted on a steel frame under the front end of which is a pair of steel wheels with hard rubber tires. In moving, the back end of the frame is pulled onto the bed of a truck, and the front end rides on the steel wheels. At the location the drawworks at the front of the rig is bolted to the derrick. Also the sampson post under the walking-beam is braced by members bolted to the derrick. The walking-beam is mounted on a swivel joint so that it can be swung to either side of the derrick to make room for the rotary equipment to hang in the center of the derrick.



Combination portable drilling rig used at Huntington Beach powered by a 25-horsepower gasoline engine

Spudding Equipment

Power is furnished by a 25-horsepower gasoline engine driving a speed reduction unit. From this unit the drawworks and rotary-table (when one is used) are driven by chains. The sand reel at the back end of the rig is also chain driven. Spudding is accomplished by using a crank which is situated on the opposite side of the rig on the other end of the shaft occupied by the large sprocket shown near the sand reel. The same crank actuates the walking-beam. For cable-tool drilling, the drilling-cable is spooled on the drum of the drawworks, so that the drawworks serves as the bullwheels. A standard temper screw is used which is not shown on the walking-beam in this view. In rotary drilling this same drilling-cable is used with the traveling-block for handling both drill-pipe and casing. When slush pumps are used they are independently driven, and are set on a platform on the ground. The owner of this equipment plans to install pumps on this frame with the rig or on another frame which will be mounted on wheels.

Used Several Years

This equipment has been in use for several years. As a rotary rig it has drilled to a depth of 3,800 feet. Little difficulty is confronted in changing the drilling method, in the course of drilling a well, providing that all of the necessary equipment is on hand. The rig can be used to good advantage in reconditioning wells, where conditions to be encountered cannot be predicted beforehand. The portable feature is also advantageous in this respect, since it is possible to tear down and move the rig to another location 10 or 15 miles away in one day's time.

Corrosion Conference

The fourth conference on the corrosion and protection of pipe lines will be held at the National Bureau of Standards in October, 1937. The purpose of this conference is to facilitate the exchange of ideas between men engaged in the reduction of corrosion losses. In order to limit the attendance to those directly concerned, all who participate in the conference are required to present unpublished papers or reports dealing with their corrosion experience. Anyone offering an acceptable paper is welcomed at the conference.

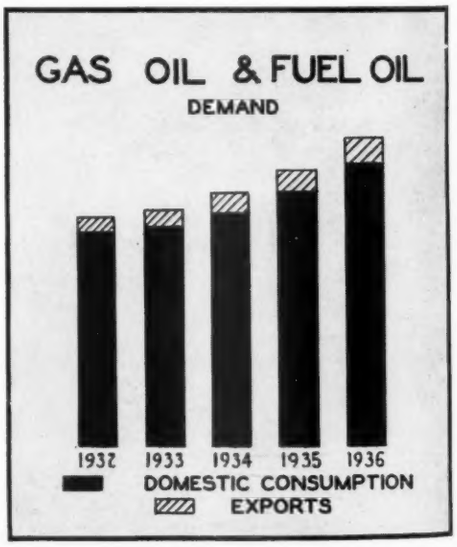
The following topics for discussion have been suggested:

1. Theory of underground corrosion. (a) Mechanism of corrosion; (b) chemical effect of soils; (c) relation of soil types to corrosion; (d) the corrosion of lead.
2. Standardization. (a) Methods for determining the corrosivity of soils; (b) methods for determining the condition of pipe lines; (c) tests and specifications for pipe coatings.
3. Stray current electrolysis—long-line currents.
4. Cathodic protection.
5. Miscellaneous papers related to corrosion.

Further details can be secured from K. H. Logan, chief of the underground corrosion section, Bureau of Standards, Washington, D. C.

Illinois Mineral Conference

The fifth annual Illinois Mineral Industries conference will be held at Urbana, Ill., October 8 and 9, as announced by M. M. Leighton, chief of the Illinois State Geological Survey.



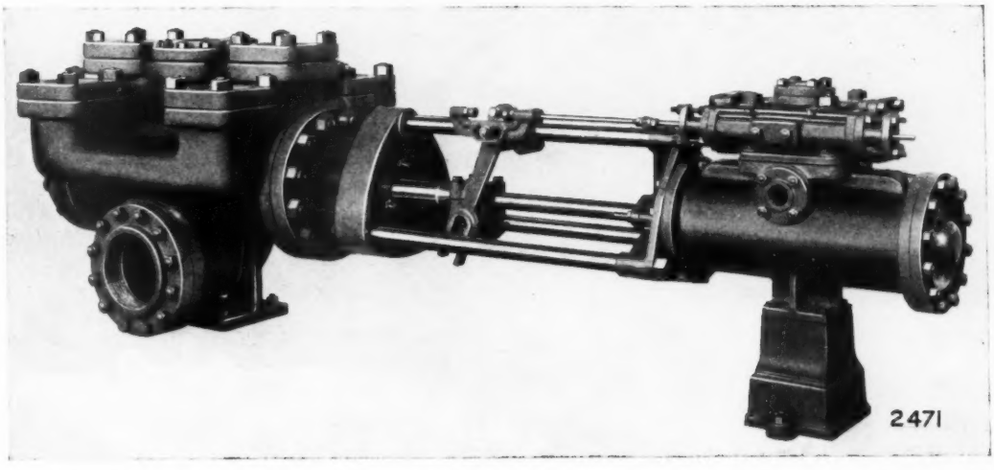
GAS-OIL AND FUEL OIL DEMAND U. S.—BBLS.

Year	Domestic	Exports	Total
1936	408,991,000	34,280,000	443,271,000
1935	366,723,000	28,948,000	395,671,000
1934	331,989,000	28,605,000	360,594,000
1933	316,344,000	20,563,000	336,907,000
1932	308,157,000	19,994,000	328,151,000

an almost universal refinery pump

TRANSIT SIDE POT TYPE

Cast Iron Liquid End—Pressures up to 500 lb. per square inch.
Cast Steel Liquid End—Pressures up to 600 lb. per square inch.
Liquid Temperature—Up to 800° Fahr.



These pumps are of the close clearance type, fully capable of handling liquids varying widely in viscosity, temperature and pressure. They are furnished with either cast iron or cast steel liquid ends.

They are especially popular in the oil refining industry where the feature of covering such a wide range of service conditions makes them almost universal in application.

Liquid end stuffing box is of the extra deep type with space for 14 rings of packing without lantern gland; or space for 10 rings of packing with lantern gland, and provision for packing lubrication and drain. Water-cooled box also supplied when ordered.

Easily removable, cast iron, leak-proof, shoulder type liners are held in place rigidly by heavy screws with cover nuts, through outer liquid cylinder head.

New Bulletins 2011 and 2012 describe these pumps in detail. Send for them.

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FAST . . . STEADY
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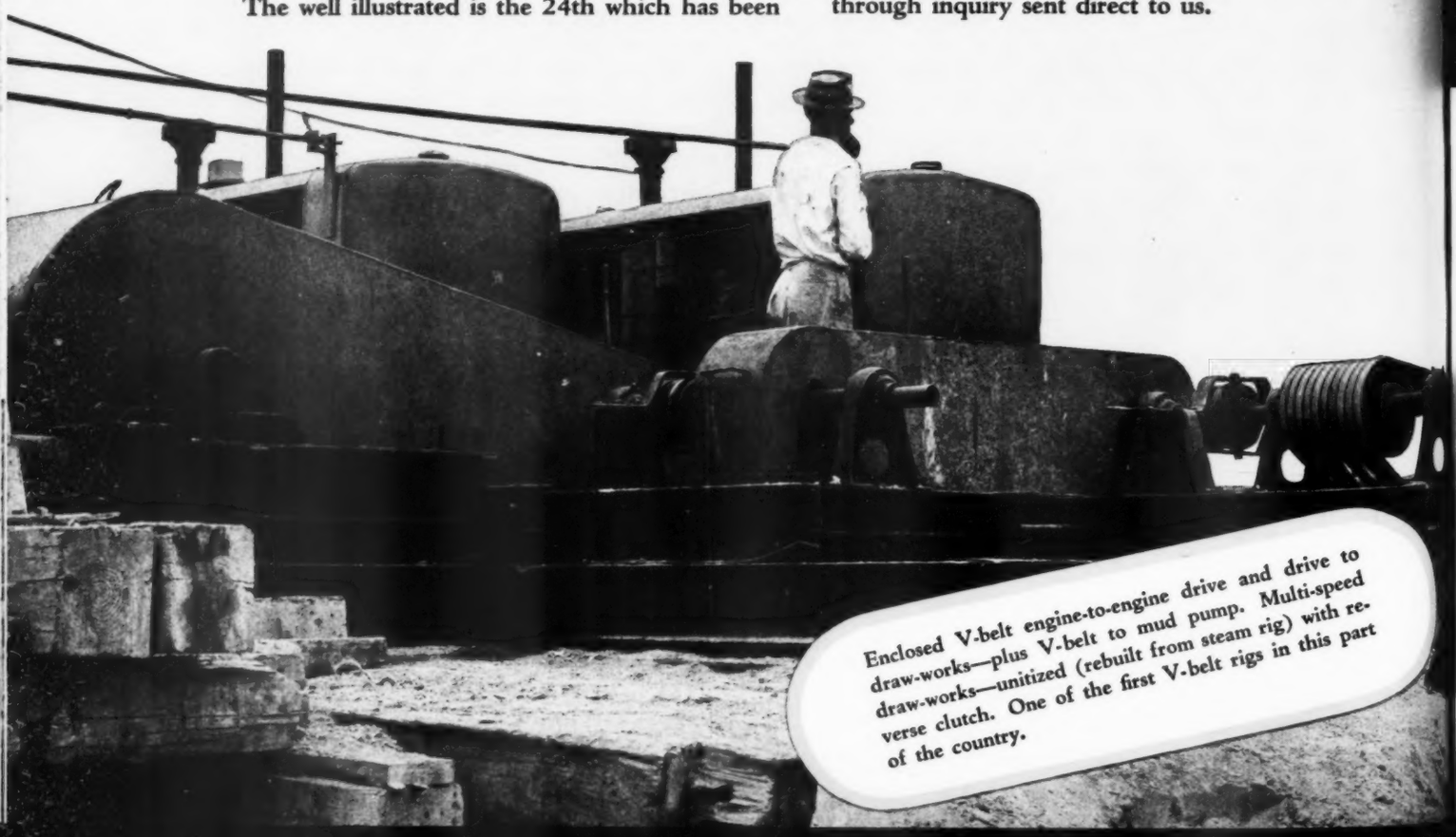
OPERATING in the Sam Fordyce (Texas) field, Henshaw Brothers, Inc., made a fast record . . . reaching the sand, 2767 feet, in 47 hours of drilling under the surface crust. Not only was no time lost, but the power cost was one of the lowest ever established on this depth and terrain. How come? "Caterpillar" Diesel Engines were used. Two 125-hp. sizes consumed only about 1200 gallons of Diesel fuel per 2700 feet.

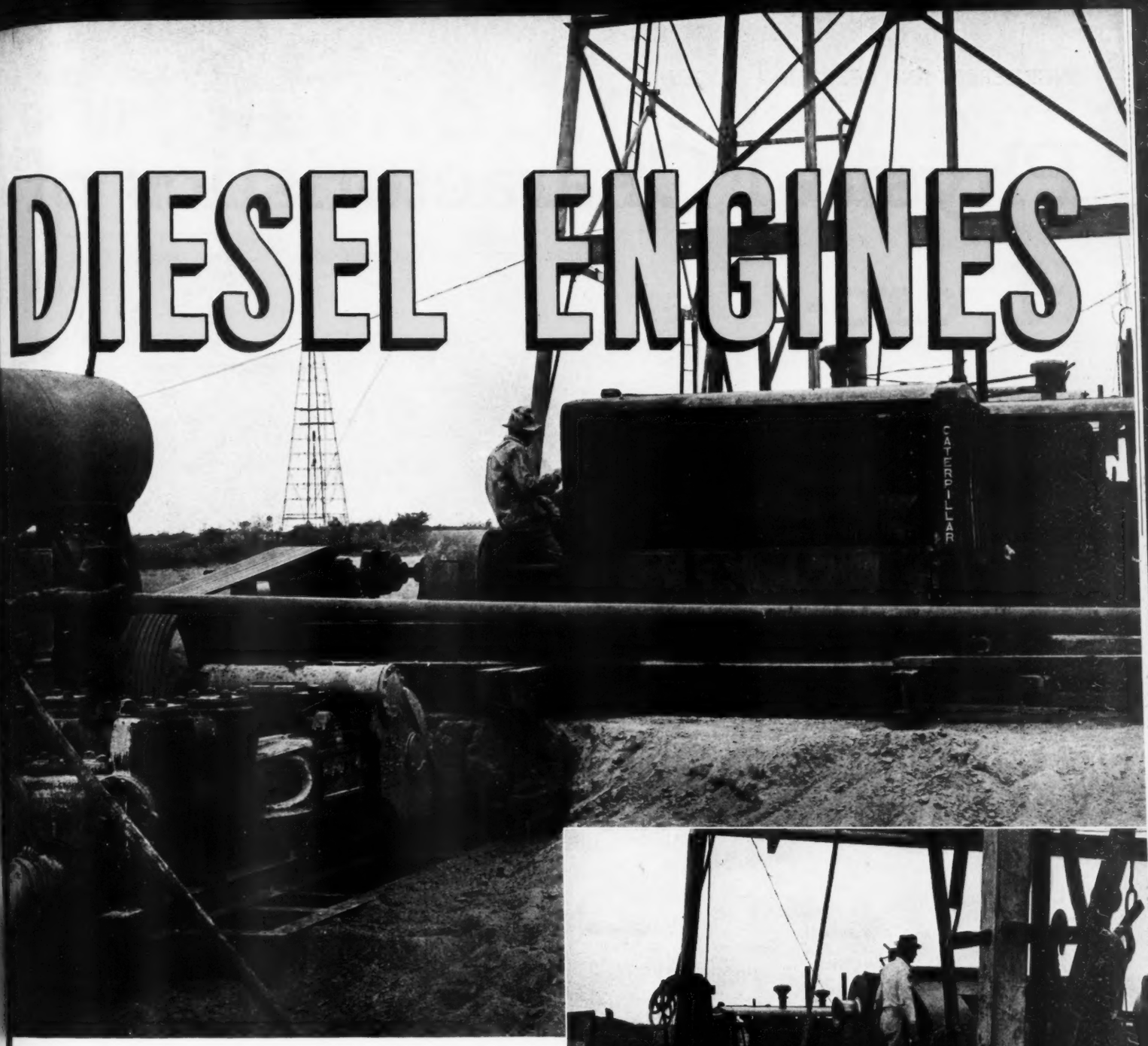
The well illustrated is the 24th which has been drilled by these same two engines. Average depth, 3000 feet. Up-keep costs have been low (one engine went "23 wells" without a single repair need).

Operating on cheap fuel — with low maintenance and slow depreciation — "Caterpillar" Diesel Engines are revolutionizing power methods — cutting operating costs to a degree unparalleled by any other drilling improvement in years. Complete information is obtainable from a nearby dealer — or through inquiry sent direct to us.



Enclosed V-belt engine-to-engine drive and drive to draw-works—plus V-belt to mud pump. Multi-speed draw-works—unitized (rebuilt from steam rig) with reverse clutch. One of the first V-belt rigs in this part of the country.

DIESEL ENGINES



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D7700 . . 4 cyl. . . 66 hp.

D6600 . . 3 cyl. . . 60 hp.

D4400 . . 4 cyl. . . 44 hp.

CATERPILLAR TRACTOR CO., PEORIA, ILLINOIS

WORLD'S LARGEST MANUFACTURER OF DIESEL ENGINES

Physical Characteristics of Hydrocarbons

By W. L. NELSON

For many years the naphthene hydrocarbons were confused with the paraffin hydrocarbons because they are both saturated types or, in other words, do not react readily with most chemicals. In fact, many chemists thought that petroleum consisted mainly of paraffin hydrocarbons, whereas we have since found that the naphthenes are the predominant series of hydrocarbons in almost all oils.

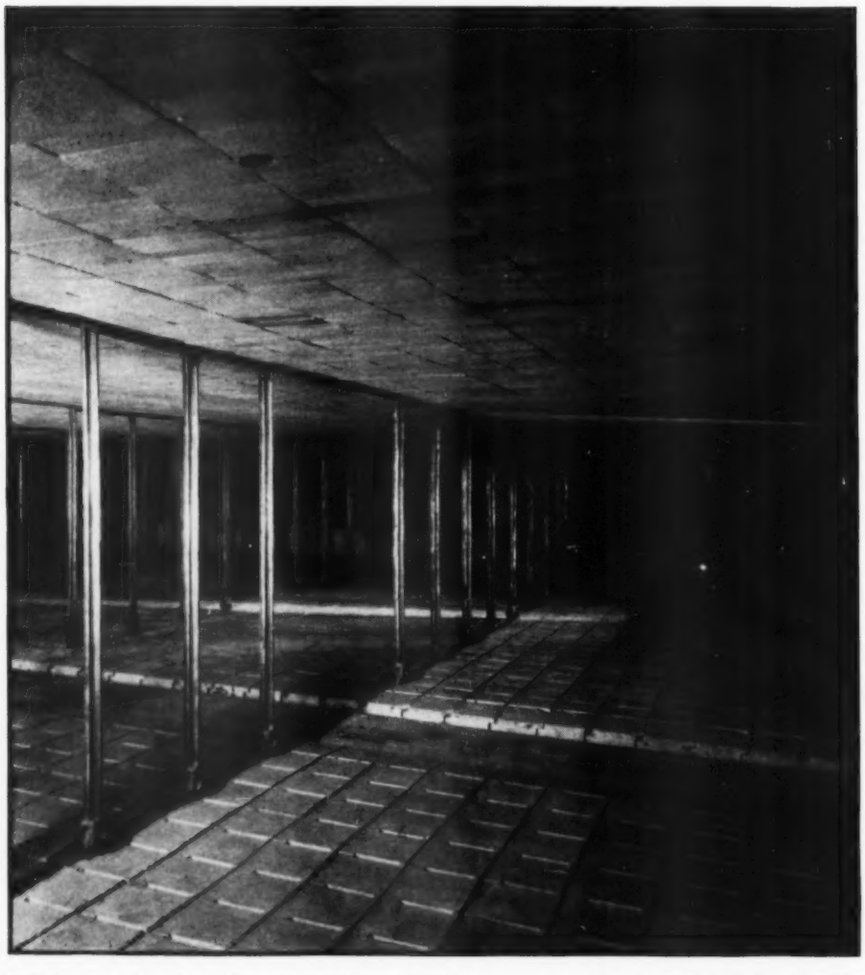
These hydrocarbons are ring structures somewhat like benzene, although the number of carbon atoms in the ring ranges from three to nine for the hydrocarbons now known, whereas the benzene ring always contains six atoms. Furthermore, the ring structure is different from benzene, because all of the chemical bonds or affinities are satisfied with hydrogen atoms rather than being free to combine with other chemicals. Benzene can be converted to cyclohexane by adding hydrogen, but we have discovered no direct way to reverse this transformation to form benzene from cyclohexane.

The number of carbon and hydrogen atoms in the naphthene hydrocarbons is the same as for the corresponding olefin hydrocarbons, but the internal structure is different. This relationship, which is referred to as isomerism, is common among hydrocarbons. Among the higher boiling or high molecular weight hydrocarbons, isomerism is particularly common, and the scores of compounds having the same type formula but different structural formulae are doubtless responsible for much of our difficulty in identifying these compounds. Some authorities believe that several thousand different hydrocarbons are present in petroleum.

In this, as in previous articles, the specific gravities were brought to the common basis of 60° F. by computations.

PHYSICAL CONSTANTS FOR SOME SIMPLE NAPHTHENE HYDROCARBONS

Hydrocarbon—	Formula	Molecular weight	Specific gravity 60/60	Boiling point °F.	Melting point °F.	Latent heat B.t.u./lb.	Heat of combustion B.t.u./lb.	Octane No.
Cyclopropane	C_3H_6	42	...	—31	—193	...	.....	..
Cyclobutane	C_4H_8	56.1	.691	53	—112	...	.....	..
Methyl cyclopropane	C_4H_8	56.1	.661	40	...	...	.....	..
Cyclopentane	C_5H_{10}	70.1	.753	121	...	...	.....	..
Methyl cyclobutane	C_5H_{10}	70.1	.753	104	...	...	.....	..
Dimethyl cyclopropane	C_5H_{10}	70.1	.660	70	...	...	.....	..
Cyclohexane	C_6H_{12}	84.1	.783	117.4[11]	43.5[10]	153	20,100[12]	77
Methyl cyclopentane	C_6H_{12}	84.1	.754	161.2	...	...	.....	..
Ethyl cyclobutane	C_6H_{12}	84.1	.750	162	...	...	20,100[11]	82
1-1-2 Trimethyl cyclopropane	C_6H_{12}	84.1	.682	134	...	...	.....	..
1-2-3 Trimethyl cyclopropane	C_6H_{12}	84.1	.688	151	...	...	.....	..
Cycloheptane	C_7H_{14}	98.1	.817	244	...	143	19,800[10]	..
Methyl cyclohexane	C_7H_{14}	98.1	.774	216	...	138	20,080[10]	..
1-1 Dimethyl cyclopentane	C_7H_{14}	98.1	.759	189.5[11]	...	146	.....	..
1-2 Dimethyl cyclopentane	C_7H_{14}	98.1	.75	197.2[11]	...	146	20,100[10]	..
1-3 Dimethyl cyclopentane	C_7H_{14}	98.1	.750	195.3[11]	...	146	19,810[10]	..
Ethyl cyclopentane	C_7H_{14}	98.1	...	217.4[11]	...	...	.....	..
Cyclooctane	C_8H_{16}	112.1	.84	296	52[10]	...	.....	..
1-1 Dimethyl cyclohexane	C_8H_{16}	112.1	.774	245	...	129	22,600[10]	..
1-2 Dimethyl cyclohexane	C_8H_{16}	112.1	.795	262.4[11]	...	128	.....	..
1-3 Dimethyl cyclohexane	C_8H_{16}	112.1	.772	248[11]	...	...	22,520[10]	..
1-4 Dimethyl cyclohexane	C_8H_{16}	112.1	.781	251[11]	...	...	23,400[10]	..
Ethyl cyclohexane	C_8H_{16}	112.1	.79	269.4[11]	...	...	.....	..
1-Methyl 2-ethyl cyclopentane	C_8H_{16}	112.1	...	255.2[11]	...	...	.....	..
1-Methyl 3-ethyl cyclopentane	C_8H_{16}	112.1	.767	249	...	...	.....	..
1-2-4 Trimethyl cyclopentane	C_8H_{16}	112.1	...	235.4[11]	...	...	.....	..
n-Propyl cyclopentane	C_8H_{16}	112.1	...	268.3[11]	...	...	.....	..
Cyclononane	C_9H_{18}	126.1	.779	278[11]	...	...	.....	..
1-1-3 Trimethyl cyclohexane	C_9H_{18}	126.1	.785	280	...	...	.....	..
1-2-4 Trimethyl cyclohexane	C_9H_{18}	126.1	.803	291.2[11]	...	...	.....	..
1-3-4 Trimethyl cyclohexane	C_9H_{18}	126.1	.790	283	...	...	25,200[10]	..
1-3-5 Trimethyl cyclohexane	C_9H_{18}	126.1	.785	280.4[11]	...	...	.....	..
1-Methyl 2-ethyl cyclohexane	C_9H_{18}	126.1	.808	304	...	...	.....	..
1-Methyl 3-ethyl cyclohexane	C_9H_{18}	126.1	.801	301	...	...	.....	..
1-Methyl 4-ethyl cyclohexane	C_9H_{18}	126.1	.801	302	...	...	.....	..
Propyl cyclohexane	C_9H_{18}	126.1	.796	308	...	...	.....	..
Isopropyl cyclohexane	C_9H_{18}	126.1	.802	295	...	...	.....	..
Ethyl cycloheptane	C_9H_{18}	126.1	.817	326	...	...	.....	..
Tetramethyl cyclohexane	$C_{10}H_{20}$	140.2	.80	302	...	...	.....	..
1-Methyl 4-isopropyl cyclohexane	$C_{10}H_{20}$	140.2	.816	340	...	...	.....	..
1-3 Diethyl cyclohexane	$C_{10}H_{20}$	140.2	.799	338	...	...	.....	..
Pentamethyl cyclohexane	$C_{11}H_{22}$	154.2	.801	361	...	...	.....	..
Hexamethyl cyclohexane	$C_{12}H_{24}$	168.2	.806	387	...	...	.....	..



Inside gas chamber of heater on Pure Oil Co.'s new combination unit at Smiths Bluff

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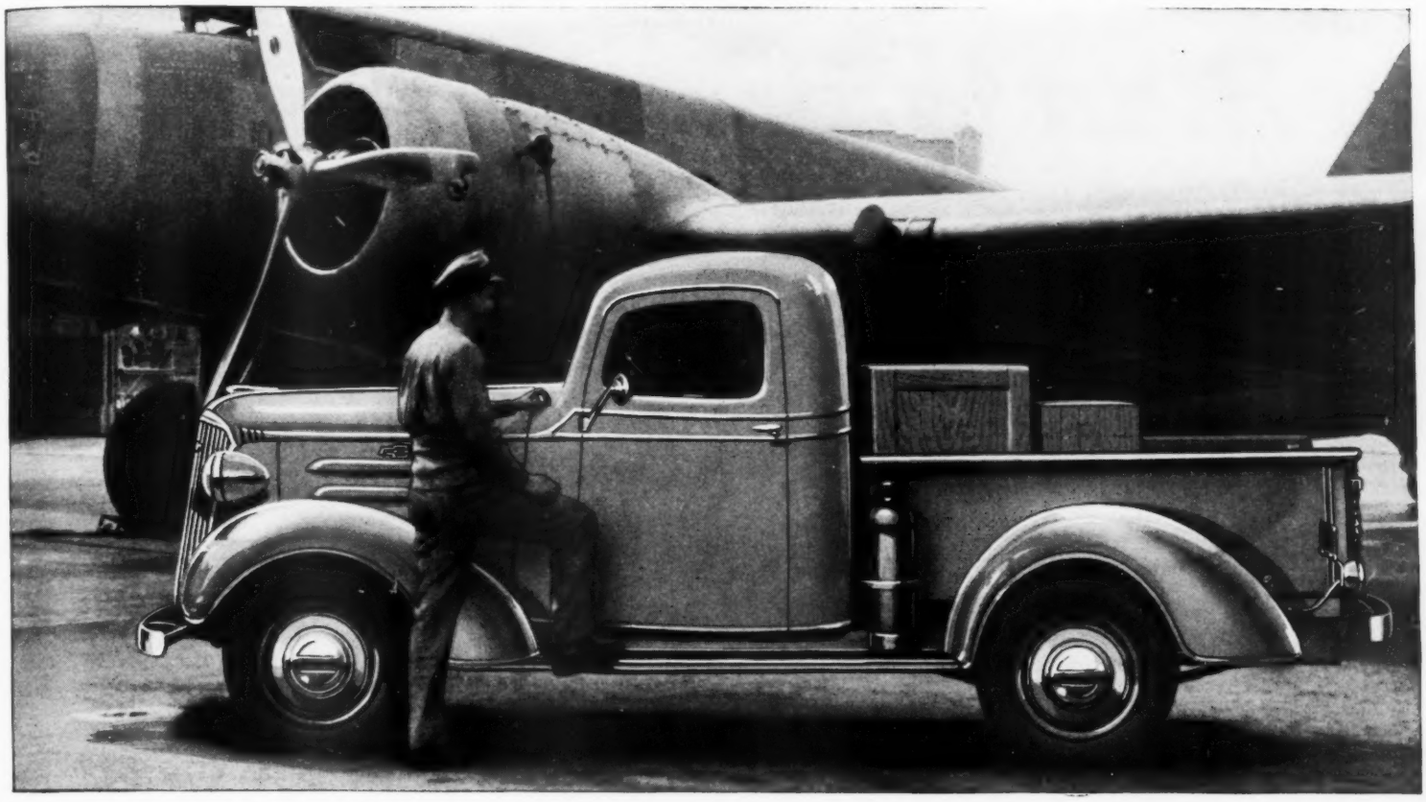
10. Brooks, B. T., "Chemistry of the Non-Benzenoid Hydrocarbons," Chem. Catalogue Co., 1922.
11. Rossini, F. D., "Chemical Constituents Separated in A.P.I. Project," The Oil and Gas Journal, May 16, 1936, page 64.

Council of Engineers to Meet

The thirty-fifth annual convention of the Universal Craftsmen Council of Engineers will be held at Chicago, August 3 to 7, 1937, with several nationally known authorities being scheduled to address the technical sessions on subjects of interest to engineers and power specialists. An exhibition of power equipment displayed by 150 prominent manufacturers in the power field will be held in conjunction with the convention. Engineers wishing to present papers should write D. W. Haering, 3408 West Monroe Street, Chicago, Ill.

new CHEVROLET TRUCKS 1937
and Commercial Cars



New High-Compression Valve-in-Head Engine provides the reliable power and speed needed for oil field emergency service

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See your Chevrolet dealer and ask him for a demonstration of these remarkable new Chevrolet trucks—the trucks that are winning new preference in oil field service.

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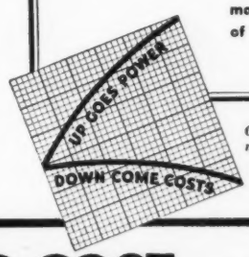
PERFECTED HYDRAULIC BRAKES (with Double-Articulated Brake Shoe Linkage). The smoothest, most efficient, and most dependable brakes ever built • **NEW HIGH-COMPRESSION VALVE-IN-HEAD ENGINE.** Giving even greater performance—even greater economy—in an unequaled combination • **MORE LOAD SPACE—IMPROVED LOAD DISTRIBUTION.** Bigger loads per trip—higher earnings per truck • **NEW STEELSTREAM STYLING.** Making Chevrolet trucks for 1937 the "best-looking trucks on the road." • **IMPROVED FULL-FLOATING REAR AXLE WITH NEW ONE-PIECE HOUSING** (on 1½-Ton Models). Super-strong—super-sturdy—built to give many thousands of miles of dependable service.



General Motors Installment Plan—monthly payments to suit your purse.

"MORE POWER per gallon LOWER COST per load!"

Pipe Cleaning Yards Built to Standard Specifications

For several years past the pipe line industry has been confronted with the problem of developing some standard, economical and efficient method of reconditioning hundreds of miles of pipe lines. This problem was practically thrust upon the whole industry at one time because most of the major pipe line systems were built during the same period, under similar conditions, and utilizing generally the same materials and methods of construction. Various methods have been discussed, tried and discarded by practically every major pipe line company, but not until the past year or two has there been developed anything near a standard method or policy of reconditioning pipe lines. Obviously, any such standardization must of necessity originate within each company and then, at a later date, be coordinated into certain standard practices for the whole pipe line industry.

Through the efforts and cooperation of various pipe line companies, individuals, trade journals and organizations, a great deal of valuable information has been obtained on the causes and prevention of corrosion, which directly affects all pipe line reconditioning work. Since pipe line operators now have a comparatively broad knowledge of corrosion, and have established certain standard practices for its control and prevention, it is now apparent that such standard reconditioning practices should be adopted. By reconditioning work, it is not meant the necessary work for repairs and maintenance, such as in short sections of line, but the work of rehabilitating an old line which has become unreliable and obsolete.

During recent years it has also become general practice to replace two or three smaller pipe lines with one pipe line of larger diameter. The pipe taken out of the ditch has usually been cleaned and reconditioned and put into service again where it is best suited.

As this work of reconditioning pipe and other accessories used by the pipe line industry progressed, the need for special equipment and properly laid out cleaning yards became more and more apparent. Pipe cleaning machines, both portable and stationary, powered with internal combustion engines, have been developed and are now generally used for cleaning the pipe. Other equipment has been developed for applying primer coating, to wrap the pipe with paper or other protective material and to coat the pipe and wrapper with heavy protective coatings. These several pieces of equipment are also powered with internal combustion engines or if small and light are manually operated. Pipe straightening machines are also used to take bends out of pipe and prepare it for further service.

On a recently completed reconditioning job done by the Stanolind Pipe Line Co. on the old 8-, 10- and 12-inch line between Welch station, Wyoming and Freeman, Mo., the work of reconditioning the pipe was done in yards systematically laid out and the success of this project indicates what can be done in standardization of pipe cleaning yards.

Laying pipe across ditch

For about 100 miles in Nebraska the pipe line is laid adjacent to and paralleling the Union Pacific railroad and Lincoln highway. Sites on the 400-foot wide right of way of the railway were selected and the highway used for much of the transportation of pipe and materials. The accompanying sketch shows the general layout of the pipe cleaning and reconditioning yards.

The sequence of operations to coordinate this work of reclaiming and reconditioning the pipe adopted for the Stanolind Pipe Line Co. job was as follows:

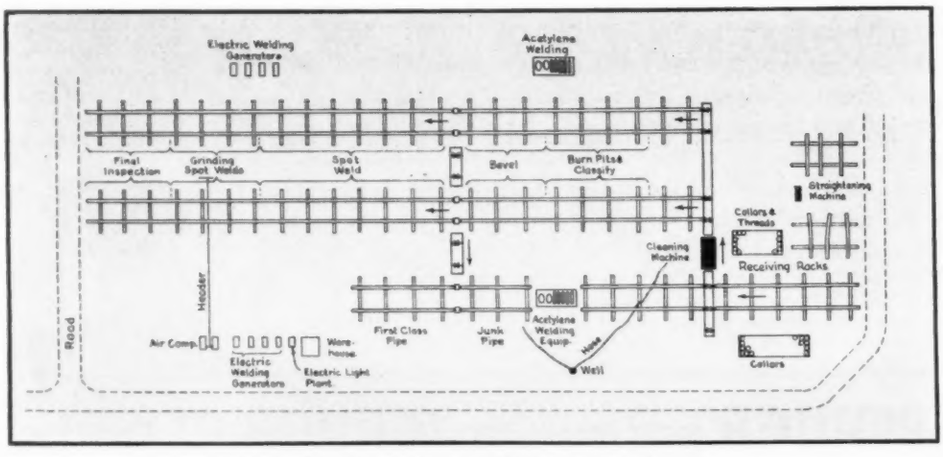
The pipe line was located by using a radio pipe line finder, a portable instrument operated by two men. As the line was located, wooden stakes were driven to indicate its course.

Inspection holes were dug at intervals to determine the extent of corrosion. Where corrosion was severe the ditch was opened by ditching machine to the top of the pipe. Following the ditcher men cleaned the top of all pipe couplings and they were then split with acetylene cutting torches in a direction parallel with the center line of the pipe.

The splitting crew was followed by another gang with a floating boom mounted on a tractor. The crane was swung into a position over the open end of the pipe and a hook lowered and attached. This permitted the lifting of the length of pipe out of the ditch and loosened it from the coupling. This joint of pipe was then lowered onto a skid placed across the ditch. The tractor then moved to about the center of this joint of pipe and the wire line from the crane was again attached and the joint lifted clear of the ditch and lowered at an angle across the top of the ditch.

With the pipe out of the ditch, another crew using a heavy duty truck and a second truck fitted with an "A" frame boom moved into position and each joint of pipe was picked up and loaded on the truck for transportation to the pipe cleaning yards. These cleaning yards were located at approximately 15-mile maximum intervals adjacent to the pipe line.

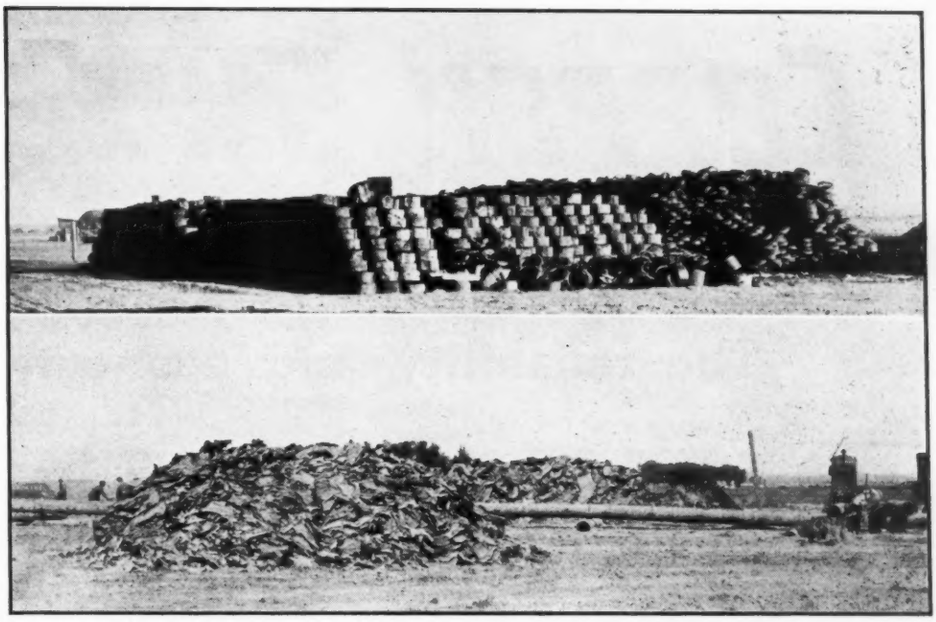
The pipe cleaning yards were selected so there was a slope and this slope determined the relative position of racks and cleaning machinery. A road was constructed leading to the receiving racks. These racks were constructed of the first pipe removed from the ditch. Full length joints of pipe were laid to form cross lines. On these ties were laid cradles made by splitting couplings longitudinally. The two halves were tacked together by welding so that their long axes crossed at an angle of 90 degrees. In this position they formed an upper and lower half round section, the lower half resting upon the cross ties for the rack and the upper section having its long axis parallel to the rails of the rack were ready to receive the full lengths of pipe. The pipes form-



Pipe cleaning and reconditioning yard layout

to Meet

By L. G. E. BIGNELL



Top: Metal removed from reclaimed pipe. Bottom: Old coating material stacked in yard

ing the rails of the rack were tacked together by welds. Either 10- or 12-inch diameter pipe was used for making these racks and the same type of construction was used for all racks in the pipe yards.

Pipe Cradle

The receiving racks were from 60 to 80 feet long and terminated at a set of rollers running at right angles to the axis of the receiving rack. Adjacent to the receiving rack two other short racks were also laid and any bent pipe was unloaded on those racks. Between the two auxiliary racks a pipe straightening machine was installed and as the bent pipe was straightened it was reloaded on the truck and delivered to the regular receiving rack.

At the terminal of the receiving rack a man was stationed to make a general classification of all pipe. Just beyond the rollers and parallel to the receiving rack a second rack was laid and any pipe to which was attached any foreign parts such as saddles, half soles, collars, leak clamps, sleeves or connections was rolled on this second rack. This was necessary because pipe with extra material attached could not be run through the pipe cleaning machine. After all attached parts were removed from this pipe it was placed on the rollers and delivered to the cleaning machine.

A set of rollers leads directly to the pipe cleaning machine from the receiving rack. This machine is fitted with knives, cutter wheels and brushes and powered by an internal combustion engine. The joints of pipe to be cleaned are fed into it and thoroughly cleaned by the revolving head. It was found necessary to spray the pipe with water to prevent old coatings from becoming heated and sticking to the cleaning mechanism and "gumming up the works" as it were.

Water for this and other purposes was secured from a well dug at each cleaning yard and equipped with a small pump jack powered with gasoline engine. The water was pumped into an old truck tank mounted upon a superstructure high enough to give gravity flow to all parts of the yard.

After the pipe had passed through the cleaning machine it was rolled onto the two pipe racks constructed in the same manner as the receiving rack. Here the pipe was subjected to several inspections and classifications. If it was found to be relatively free of corrosion pits, the threaded ends were cut off with a beveling torch and, following a final inspection, delivered back to the ditch for relaying.

On this job, however, it was found that only a small portion of the pipe was free of deep corrosion pits. To remove the products of corrosion, which consisted of rust and dirt, the spots were heated with an acetylene flame and then the pipe pounded with a ball peen hammer and the material jarred out.

As soon as this work was completed an inspector measured the depth of the pit holes with a pit gauge and ringed them with chalk if shallow or with white paint if through the walls of the pipe. These markings indicated both position and character of pits. If there were too many holes through the pipe in any section this portion of the joint was cut out entirely and the remaining portion of the joint welded together to form a slightly shorter joint, or short joints were welded together to make a complete joint of normal length.

The sixth operation consisted of beveling and cutting off the thread ends with a beveling machine and acetylene torch. The pipe then moved on to a group of welders equipped with electric welding outfits, who filled the pits with welding metal. These pits were filled so that the welding metal extended slightly above the level of the outer wall of the pipe.

The spot welds filling the pit holes were ground down flush with the surface of the pipe. This permitted further inspection to determine whether this work was properly done. If any defect was found the welder again filled the pit hole. Grinding also removed any rough metal which might penetrate the wrapping to be later applied to the pipe and also made possible the proper application of protective coating.

This grinding also made possible a better second cleaning job to be done after the pipe was again welded into the line and made a good workman like job.

After spot welding was completed the joints of pipe were swabbed with a hard swab to remove any icicles or obstruction in the interior of the pipe.

When all of this work was completed in the yards each joint of pipe was again given a final inspection which was very thorough. If the pipe passed this inspection it was marked to indicate that it was ready to be again returned to the ditch. This mark was in the form of a white stripe and every joint of pipe leaving the reconditioning yards had to have this mark of approval before it could be again used.

All pipe to be returned to the ditch was assembled at the end of the racks in position to be loaded on the trucks which had brought in pipe to be reconditioned. This system made it possible for the trucks to carry loads from and to the ditch on each trip. Trucks were loaded with the assistance

(Continued on Page 48)

Corroded areas indicated by outline *Pits filled with welding metal* *Grinding surface of filled pits*

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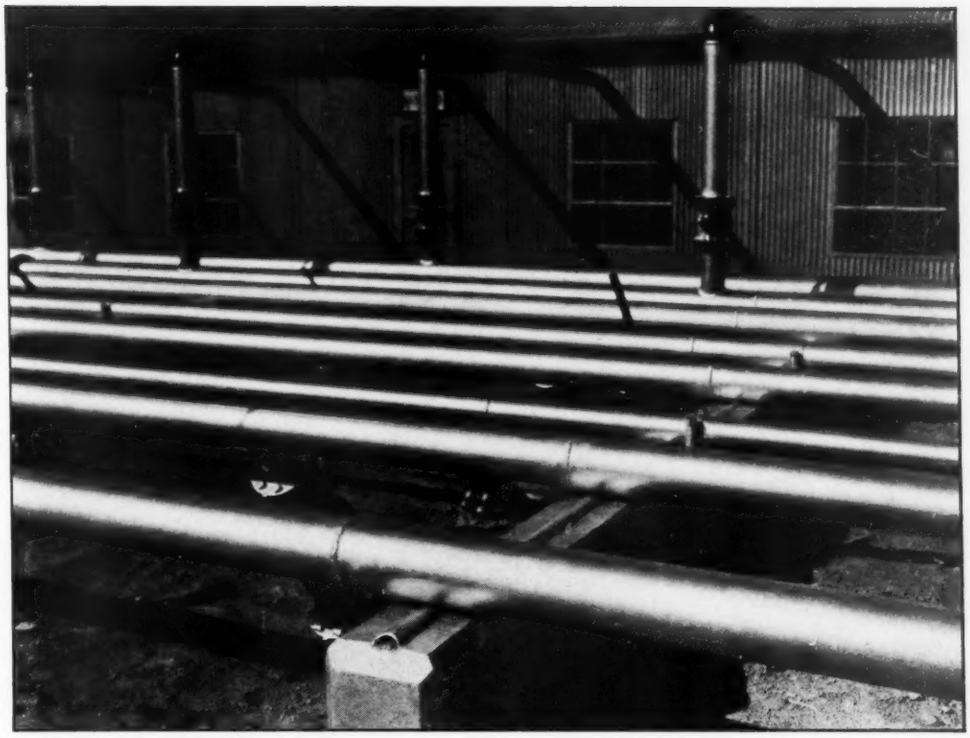
PETROLEUM ENGINEERING RESEARCH COMPANY

OPERATING IDEAS

Concrete Circulating Tank

In some California fields concrete circulating tanks are erected on the leases for use on the shallower pumping-wells. Steel forms made of tank metal are kept on the leases, and tanks are poured at the exact location they are to occupy. Obviously, a permanent location for such a tank is essential as moving would be difficult without causing a crack.

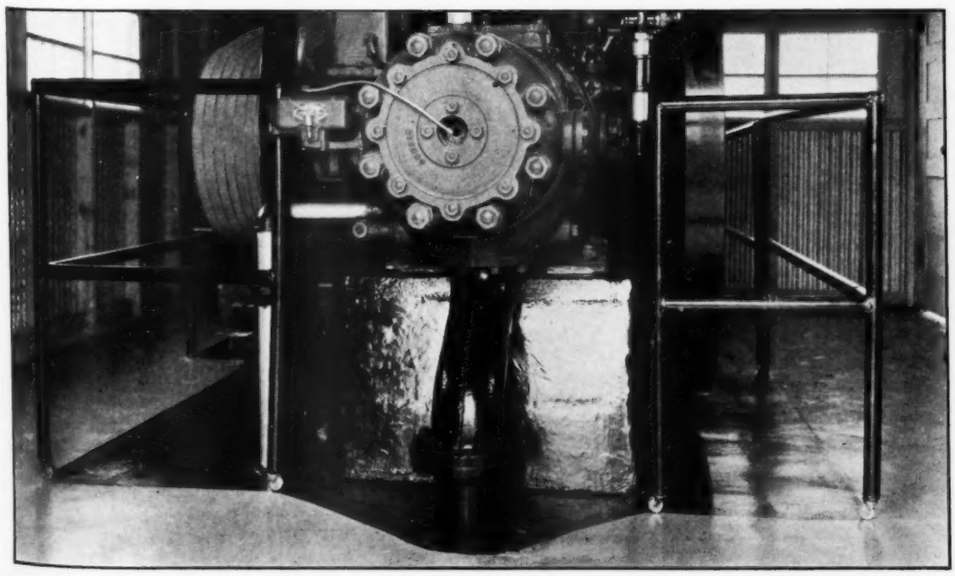


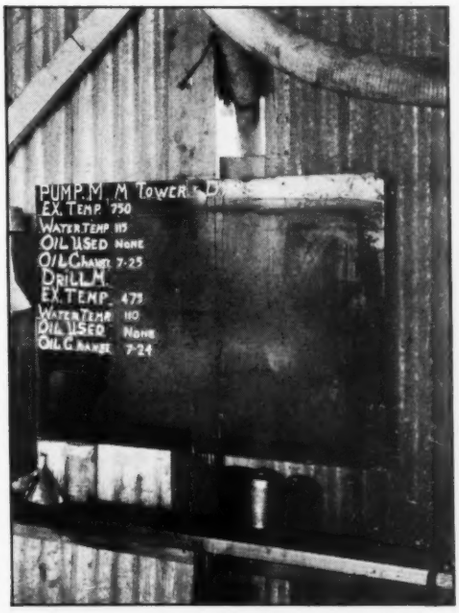
Pipe Cushion Saves Concrete Base

Headers on a gas-lift station in the Fitts pool, Ada, Okla., are supported on concrete columns which have 3-inch pieces of tubing inserted into the top surface of the block on which the header lines rest. Without this the vibration of the lines would create a tendency to eat down into the block. The tubing also adds to the strength of the block although this is comparatively slight.

Removable Guard Rails Equipped With Casters

A novel guard rail has been worked out by a large supply company installing pumping equipment in the Ada field of Oklahoma. Instead of setting the rails in concrete or in pipe imbedded in the concrete, the rails are equipped with casters and pivot about one leg housed in a pipe set in the concrete floor. Whenever it is necessary to work on the engine the rails are swung back out of the way and the operator thus allowed freer access to the engine. The accompanying photograph clearly illustrates how the rails are divided in half and pivot about one of the end legs. A stop may be provided to hold the legs in any position desired by the operator.





Record Board on Derrick

Operating record board in diesel electric drilling rig in Lucien pool of Oklahoma used by large drilling contractor. The board is mounted in the power plant of the rig and provides an accurate record of operating conditions for each crew as it comes on to the rig floor.

Producing and Refining of Petroleum in Pechelbronn

France, one of the largest petroleum consumers, has been but a small oil producer, the only workable area being the Pechelbronn oil field in Alsace. The Pechelbronn industry, which belongs by its past to the first workings of petroleum in the world, by its special producing technique and, in fine, by the variety of products manufactured, several of which fill the needs of a considerable part of the French market, deserves the attention of all those interested in petroleum.

Geological Field Characteristics

The Pechelbronn field borders the Alsatian flats north of Strasbourg, lying in the medium part of the Rhine valley, and is 18 to 24 miles wide and 155 miles long. The depression was formed during the Oligocene period, and it is generaly granted the oil belongs to that short period. It must be observed, however, that hydrocarbons have been recently found in the Jurassic and the Keuper, in the southern part of the field. They might also belong to a period prior to Oligocene, unless they have migrated laterally through an important fault into a porous rock older than that where they originated. These showings induced the working company in December, 1936, to start deep drilling with a rig of the rotary type.

The oil is found in long and narrow lenses forming a sort of sandy nuclei trapped in marl. The field belongs to the monoclinous faulted type, which is seldom met with. Dividings are "en echelon," so that faults raise strata dipping towards the middle of the basin.

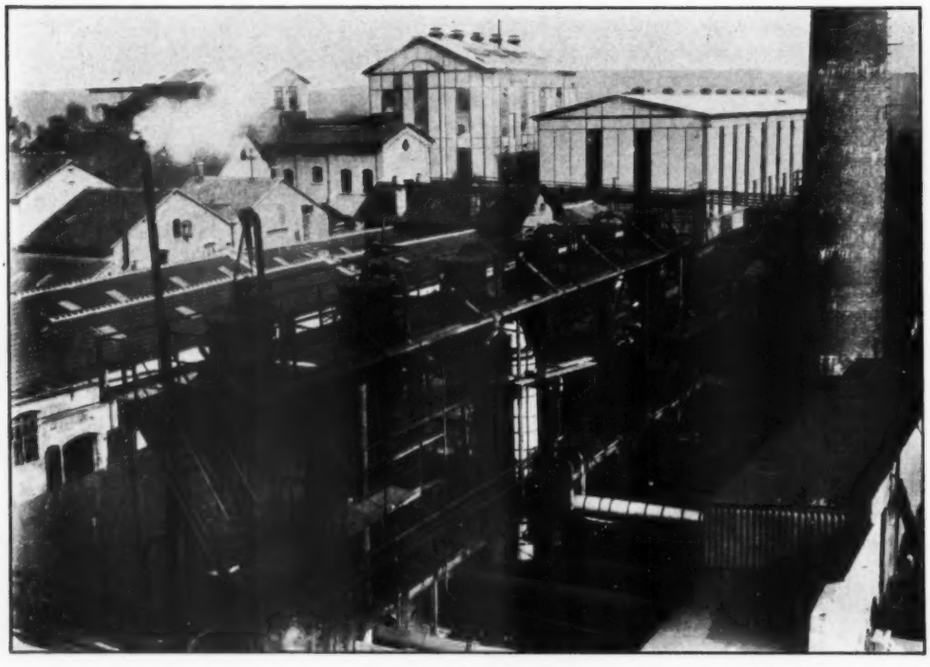
History

The Pechelbronn field, known since the 15th century, has been worked regularly since 1735. The mine belonged then to the Le Bel family, several members of which were celebrated chemists, who controlled and made prosperous the petroleum industry in Alsace for 154 years. The bituminous sands were first removed by means of shallow galleries sunk from the hillsides, and afterwards from the bottom of 30-foot shafts. As the oil was very viscous it could not be separated from the sand except by a boiling water treatment and it was chiefly used for manufacturing wagon wheel grease. The wells, first drilled in 1813, were initially intended to explore the sands worked by galleries. The depth of these did not exceed 260 feet. In 1882, a deeper well met the pay at 460 feet, the gushing oil being more fluid. Efforts were directed towards this producing method, which entirely superseded galleries in 1888.

Surface equipment at mines in Pechelbronn

In 1857, with the building of the first kerosene producing stills, the refining industry made its appearance in France. Crude oil production was soon pushed on. In the meantime Germany seized Alsace and Lorraine, and the field, after having been sold by the Le Bel people to a local concern, became a German company property in 1906, which continued until the end of the war.

Numerous small and scattered claims finally united into a mining property which the French government put into the hands of a receiver according to the Versailles treaty, and afterwards leased to the Pechelbronn Societe Anonyme d'Exploitations Minieres.



The Merkwiller plant

Present Production

Producing petroleum in Pechelbronn is done by wells and by mining galleries. The latter, which had been used in a shallow way, were resumed in 1917 to reclaim the large percentage of oil left underground by drilling methods.

Mean density of wells in productive areas does not exceed 1.17 per hectars (i.e. about 0.46 per acre). More than 2,000 wells have been productive and yielded a total of 1,550,000 metric tons (about 10,850,000 bbls.) of oil. Mean depth of wells is slightly over 1,200 feet, but drilling is to exceed 3,300 feet. The greatest depth for producing wells has been slightly over 3,080 feet, the best one having yielded daily over 70 cubic meters, and a total of 30,000 tons (210,000 bbls.). As a whole, the field has yielded about 1 ton per meter drilled (3 feet).

Gas pressure being generally low, the wells are seldom completed as gushers, and when so are only of short duration. On the pump their average life is seven years. Exploration of strata,

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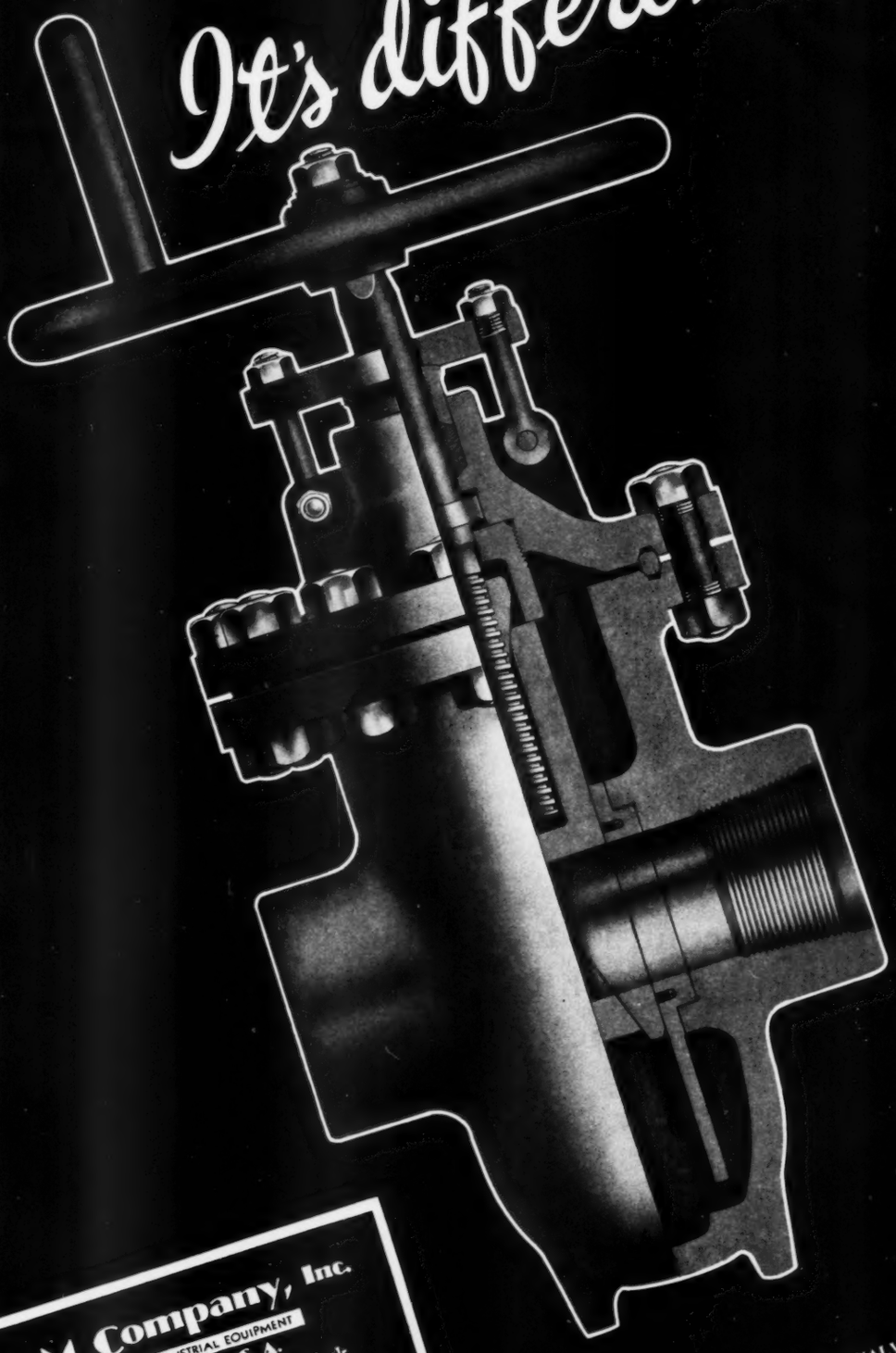

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which was first performed by mechanical coring, is now done by investigation of cuttings together with Schlumberger electrical coring method.

Production actually won by drilling and pumping employs 850 men. Thirty rigs are drilling—out of which six are Pennsylvanian rigs and one rotary. Six hundred and forty wells are on the pump. In 1936 there were 36,000 meters (118,110 feet) drilled, yielding 41,000 tons of crude (about 287,000 bbls.).

The underground galleries furnish a recovery method which is special to the Alsatian field. These regular mines seek in the sands the oil which has not been brought to the surface by pumping, 50 per cent being reckoned as that left in the strata by drilled wells, most of which is being recovered by the alternative method. The galleries make a system nearing a 200-meter density per hectare (265 feet per acre), and per level. The deepest levels are a little over 1,300 feet. Oil runs into sumps dug about every 32 feet. No strata of consequence can be missed. Wells give valuable geological information and serve as guides for directing galleries toward oil bearing strata.

From 1917 to 1937, an area exceeding 2,900 acres has been drained, the superposed strata being reckoned separately, 149 miles of galleries being developed, and 500,000 tons (about 3,500,000 bbls.) of crude oil recovered, which is the same quantity as by the wells, over an equal area.

The Refinery

The present refinery has been erected on the site of the first stills. There are three groups, covering an area of about 6,000 acres, the annual capacity being 115,000 tons (805,000 bbls.). During 1936, in addition to the oil extracted from the French subsoil, some South American crude oil was run. This was selected to improve the Alsatian oil.

Plant Operation

The refinery is divided into the three parts indicated by the adjacent villages from which they derive their name: Lampertschloch, Merkwiller and Kutzenhausen. The Alsatian crude is stocked in the Lampertschloch part and undergoes there a primary distillation to obtain light products.

The oil from the wells and from the galleries containing about 35 per cent salt water and earth in suspension so it is necessary, for insuring smooth running distillation operations, to settle out these impurities. The oil is held in 70,000 cubic foot tanks (about 1,250 bbls.) where mild heat is applied by steam coils, then it goes by 1,765 cubic foot batches to a set of insulated tanks where it is mixed with emulsion breaking soaps, and it is then steam heated.

The dehydrated heated oil passes continually to a first 1,500 cubic foot still where its temperature is brought to 356/374° F., from which the raw gasoline is collected for chemical refining. The residue goes to a second similar still where it is heated to 554/570° F., yielding kerosene distillate which passes also to chemical treatment. The two distillations have yielded about 35 per cent light products. The residue, called "65 residue" because it represents 65 per cent of bulk treated, goes to the Merkwiller plant.

The white product chemical refining is performed in Lampertschloch. Straightrun naphthas are treated in a continuous system by caustic solution, making them sweet and noncorrosive. Kerosene undergoes a sharp refining process before being marketed, this operation being performed by batches in five 6,000-gallon lead lined agitators, using in series sulfuric acid, caustic soda and clay. The "65 residue" goes by the Lampertschloch pipe line to the Merkwiller plant for fractionating into lubes, paraffin wax, asphalt and coke. A first run distillation separates the "65 residue" into three cuts: Main distillate containing crystalline paraffin; heavy distillate containing so-called "amorphous paraffin"; and more or less hard asphalts according to reducing rate.

This "65 residue" distillation is performed under vacuum, with injected superheated steam, processing in five stills, working by series, being continuous.

In nearby contiguous buildings crystalline paraffin is separated from main distillate by cold filtration at 5° F., followed by hot filtration, and finally by sweating. The so-called "amorphous

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paraffin," trapped in a more viscous oil, cannot be satisfactorily extracted by this latter process. Therefore the heavy distillate passes to the Kutzenhausen plant where it is mixed with naphtha having a predetermined gravity, and then centrifuged. The naphtha is then distilled off from the dewaxed oil.

Raw paraffin extracted by filtration and by centrifuging is then refined by agitation with sulfuric acid and soda or clay in the Merkwiller plant. After a 158° F. filtration paraffin is made into translucent slabs, packed and dispatched in 154-pound bags.

Both main and heavy dewaxed distillates are redistilled under vacuum. Oil thus obtained undergoes a sulfuric acid, soda and activated clay refining.

Acid sludges are treated with steam for recovering 55° Be. acid. The solidified residue is used for fuel.

Primary distillation yields a final asphalt product, melting point being between 104 and 248° F. Some of the residue is cracked in special stills to obtain light products and coke for electrode manufacturing.

Storing and Shipping

The Pechelbronn works possess a great diversity of storing facilities, the big crude oil tanks having a capacity ranging from 2,000 to 5,000 cubic meters (70,000 to 176,000 cubic feet). Some others, 240, are distributed between the various plants, and allow the building up of important stocks of finished and semifinished products.

No waterways being available near the refinery, all shipping is done by rail or tank trucks.

Laboratories

Control and research laboratories, fitted according to most modern data, are housed in a building erected in the Merkwiller plant, opposite the main offices. The staff includes chemists, physicists and engineers. In an experimental plant adjacent to the laboratories, the mineral oil may undergo any sort of treatment for high quality products, under conditions similar to those used in the plant.

Staff

Pechelbronn gives employment to some 3,000 men, 600 being refinery workers, the rest are in the drilling and mining departments and main office.

Two small sets of houses, one built on the Merkwiller village grounds and the other near the Niederwald woods, group about 20 bungalows, intended for engineers and some other employes. Bachelor engineers live in a club. A cooperative store and some mess rooms, providing sleeping and feeding accomodation for other employes, complete the Pechelbronn organization.

Conclusion

The working of Pechelbronn shows the various possible phases afforded by the petroleum industry.

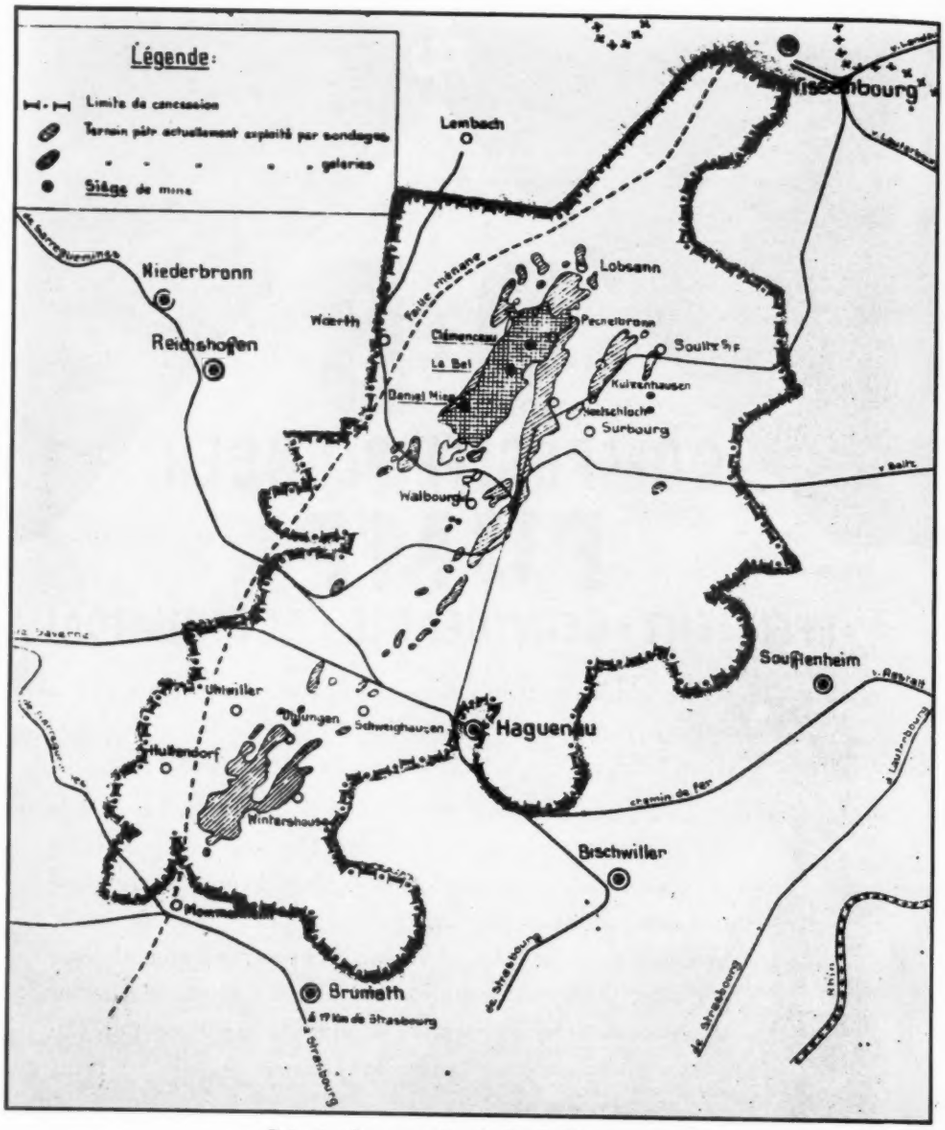
Producing crude methods, together with petroleum researches, are carried on by drilling, also by mining.

In the three units the refinery manufactures all the important petroleum products, amongst which kerosene, lubricating oils and paraffin stand in the limelight.

During 1936 Pechelbronn has supplied 10.1 per cent of the kerosene, 12.5 per cent of the lubricating oils and 28.5 per cent of the paraffin needs of the French market.

Before concluding, we must add that a branch of the Alsatian concern, the Pechelbronn Quest Co., has built at Donges (Brittany), on the shores of the Atlantic, a yearly 1,400,000-bbl. capacity topping-cracking unit processing imported crude, which perfects harmoniously the Merkwiller works, manufacturing only light products and fuel oils, while the eastern refinery turns out mostly heavy distillates.

This short review has endeavored to show that the petroleum industry in Alsace—the oldest in the world—plays actually an important part in the French economy, and owing to its former prospecting and producing practice, stands as a pioneer of petroleum research in France.



Principal concession in Pechelbronn area

Pipe Cleaning Yards

(Continued from Page 41)

of a second truck equipped with an "A" frame boom or crane. When the load reached the ditch the pipe was strung in the usual manner and then assembled into convenient lengths to be welded alongside the ditch before being lowered into it.

In these standardized cleaning yards an office building was erected and in this building a small portable electric generating plant was installed. This plant furnished current for the flood and other electric lights used to carry on this work through the night shifts, generally required to keep up with the work of supplying the welders on the ditch with reconditioned pipe for relaying. About 7,000 feet of 10- or 12-inch pipe was cleaned in one of these yards each 24 hours and the welders laid from 6,000 to 8,000 feet daily.

A battery of portable electric generators was assembled in a line near the racks upon which the welding, cutting and beveling operations were performed. In addition to the electric generators, a battery of acetylene generators was also grouped conveniently close to these racks. The relative position of electric and acetylene generators to the pipe racks was always the same in each yard so that the connecting lines for electricity or gas were always the same length.

Orderliness was a keynote in laying out the yards and in carrying on all operations. Nothing was left to chance if it could be anticipated. For instance, at one place in each yard the split screwed couplings were removed from the ends of the pipe. Those couplings were not thrown upon the ground where they might interfere with the workers, but as each coupling was cut off the end of the pipe it was picked up, usually with a hooked welding rod, and placed in a wheel barrow. When this barrow was filled it was wheeled to a place where the couplings were piled in an orderly manner. While the man was making a trip to the stack and back another barrow man was being filled by the men at the racks.

In like manner the foreign material removed by the stationary pipe cleaning machine was piled in a place where it would be out of the way of all operations and would not be blown into the workmen's eyes.

The line has a capacity, as now equipped, for handling about 8,000 bbls. of Salt Creek crude oil daily mixed with Lance Creek oil to bring up the total capacity of the line to about 15,000 bbls. during the summer time. There are about 11,000,000 bbls. of Salt Creek crude to be moved from the Clayton tank farm, Wyoming, together with about 5,000 bbls. of Lance Creek crude delivered daily to the main line at Fort Laramie, Wyoming, station. The oil is transferred to the main trunk line of the Stanolind Pipe Line Co. at Freeman, Mo., and from there pumped to delivery points.

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PROBLEMS FROM READERS

Edited by L. G. E. Bignell

What Does the Term "Fourble" Mean in Well Testing?

I would like to know what the term "fourble" means when used in connection with a test on a rotary drilled well. Scout reports state so many fourbles of oil on a well test but I do not know how to translate that kind of a report into well capacity in barrels.—E. N. L.

When a showing of oil is secured in a rotary drilled hole it is common practice to run a sand tester on the end of a string of rotary drill pipe. The sand tester is a device which is set with a packer and in this manner the pressure exerted by the column of mud fluid in the hole is taken off of the formation to be tested. When in place the pipe is rotated and the valve in the sand tester opened to permit whatever fluid is below the packer to enter the drill pipe.

The term "fourble" means that the drill pipe is handled in units of four joints of pipe. This length of pipe is roughly 90 feet. After the test has been made on the sand the drill pipe is pulled and each fourble is stacked in the corner of the rig and counted. The total number of joints in the drilling string is known and the number of fourbles pulled before the oil inside the drill pipe shows are deducted from the total number of joints.

For example if 108 joints of pipe were on the lower end of the string of drill pipe before oil showed this number will be divided by four and the oil scout will report the well tested 27 fourbles of oil and would also state the time during which the tester was open.

The quantity of oil inside the drill pipe varies with the weight and size of the pipe used and unless these details are known the report in fourbles offers no definite measure in terms of barrels. However, in drilling a certain size hole the drill pipe used is usually of standard size. For instance, if the pipe has an inside diameter of 4 inches it will hold about .6528 gallon for each foot of length. With fourbles estimated at 90 feet each and 27 of them full of oil there would be 2,430 feet of oil in the hole. This would be equal to 1,586.22 gallons or about 37.5 bbls. of 42 gallons each. If this oil entered the drill pipe through the sand tester in a short time the driller can decide whether the showing is of commercial importance and proceed to complete his well where the test was made.

More About Air or Gas Locks in Pipe Lines

Referring to the answer to my question which was published on page 51 of the issue of February 4, 1937, may I offer the following comments:

Paragraph 1. The steepness of the pipe does not affect the hydrostatic head.

Paragraph 2. I understand that locks occur by continuous pumping and are relieved intermittently by bleeding off the gas. "Fluid' covers both liquid and gas.

Paragraph 5. You say the gas can be compressed without allowing the "fluid" to be pumped over the top. If this is true, why is it? Why will not gas transmit the pressure to the liquid and force it on out? If some liquid does not go on out, then the gas lock will resist the highest pressure possible, but this is not true.

I think the answer is as follows: If gas or air accumulates in the highs so that liquid is separated from liquid, an additional pump pressure ensues until the increased pressure dissolves enough of the gas to again connect the liquid along the bottom of the pipe over the highs. Over a long gradual bend, especially, there exists gas on top of the pipe cross-section and a small wetted perimeter of oil below. The increased velocity and extra friction of the liquid passing this restricted area accounts for the extra pressure.—H. W. B.

Pipe Line Right of Way Easements

Can you give me any information about pipe line permits? What is the usual price paid for pipe line permits on cultivated wheat land buried to allow cultivation of land in central Kansas? About how much time is taken by company between taking options and commencing pipe line work?—R. M. A.

This is difficult to answer because you ask questions about two forms of contract—a right of way easement and an option to take right of way easement.

If option only has been secured the time element should be set forth in this agreement and it might cover any length of time from a few weeks to years. You can only secure answer to that question by referring to a specific option.

Right of way easements are usually secured a short time in advance of actual laying of the line. Prices and forms of payment vary. One form provides for the payment of 2 cents per rod for land secured for the laying of lines 6-inch diameter and smaller. For lines larger than 6-inch diameter the price paid is 50 cents per rod. A rod is 16½ feet.

No width of right of way is specified in the easement and any actual damage to land or crops or buildings is settled for in addition to the payment for the easement as set forth above. If growing crops are damaged it is usual for the representative of the pipe line company to settle for such damage with the owner of the property.

The easement provides for entrance and egress to the right of way at any and all times to make repairs to the line or for any other purpose. If such entry causes further damage this is adjusted with the owner.

Air-Lift Problem

Can you give me the volume of gas necessary to lift 400 g.p.m. of water from a water well 80 feet deep having 60 feet of water in the hole? If need be additional submergence can be drilled. We have high pressure, in excess of 100 pounds, gas available.—C. J. F.

With a 60-foot water level in this 80-foot well the submergence is 75 per cent and the actual lift will be only 20 feet or the air pressure must work against about 8.68 pounds head. Without going into the solution of a rather complicated formula but using a commercial table, it is found that .307 cubic feet of air at 80-pound pressure will be required to lift 1 gallon of water under this condition or 122.8 cubic feet per minute will be needed. The 80-pound pressure is used to compensate for friction and other losses during the operation of this lift.

It is also indicated that the submergence may be as low as 45 per cent and this volume of air will be sufficient to deliver the required volume of water from this well.

History of Wire Rope Used in Oil Industry

We are interested in obtaining authentic information as to when wire rope was first used as drilling line on oil wells.—W. V.

From the Diamond Jubilee edition of The Oil and Gas Journal, Aug. 23, 1934, has been taken the following information about the introduction of wire lines for cable tool drilling in the oil country.

The deepest well in the United States up to 1898 was one drilled by the Forest Oil Co. on the William Bedell farm near West Elizabeth, 12 miles south of Pittsburgh, Pa., and had a total depth of 5,575 feet.

At a depth of 5,500 feet the crown pulley broke and cut the rope, dropping the tools 100 feet and plugged the hole. To drill this well it required extra heavy machinery consisting of two 25-horsepower engines and boilers, three bull ropes, 16-inch belt, 13½-foot band wheel, 5-inch forged crank shaft, two brakes on bull wheels and two cables spliced together. The weight of the cable was about 14,000 pounds and the approximate cost of the well was $40,000.

This specification indicates wire lines were being used for drilling in 1898 and this is further indicated by the fact that it is reported that wire drilling lines were first used "during the middle nineties."

It appears that wire lines were introduced into the industry first in the form of the light sand lines. These lines, made of wire, were used to run the bailer because they were easier to handle than the manila rope and had the required strength for this duty.

It is reported that larger wire lines were first used for pulling liners and similar work around the wells where greater strength than to be had in manila lines was necessary. As the 1-inch diameter wire lines were wound on the bull wheels it is logical to assume that the drillers tried them out for drilling, but it is understood that the first wire lines were equipped with "manila snappers" between the tools and the lower end of the wire line to give the required motion to the tools and it was a long while before the old-time drillers would concede that the wire lines could be attached directly to the tools and make hole.

While this history indicates that the steel industry had attempted to introduce wire lines for drilling into the oil industry for some time after 1890 for bailing or sand lines only it was not generally accepted until Jack Prosser invented a swivel socket for wire lines which was first used in the Hamilton Switch field, north of Okmulgee, Okla., in 1910. With the swivel socket perfected wire ropes came into general use and gained favor from that time on. Wire ropes with manila "crackers" were used generally as far back as 1906 but the cable tool drillers were not sold on the wire cable until 1910.

The desire to use wire rope was indicated in the nineties when it was learned it could be used more satisfactorily in wet holes especially holes filled in shale or other mud making formations. Manila rope tended to become unduly heavy when used in wet holes and for this reason a substitute was desired. With the development of the Prosser swivel socket the difficulties formerly encountered using wire cable were overcome and its general use for drilling may properly be dated from that time.

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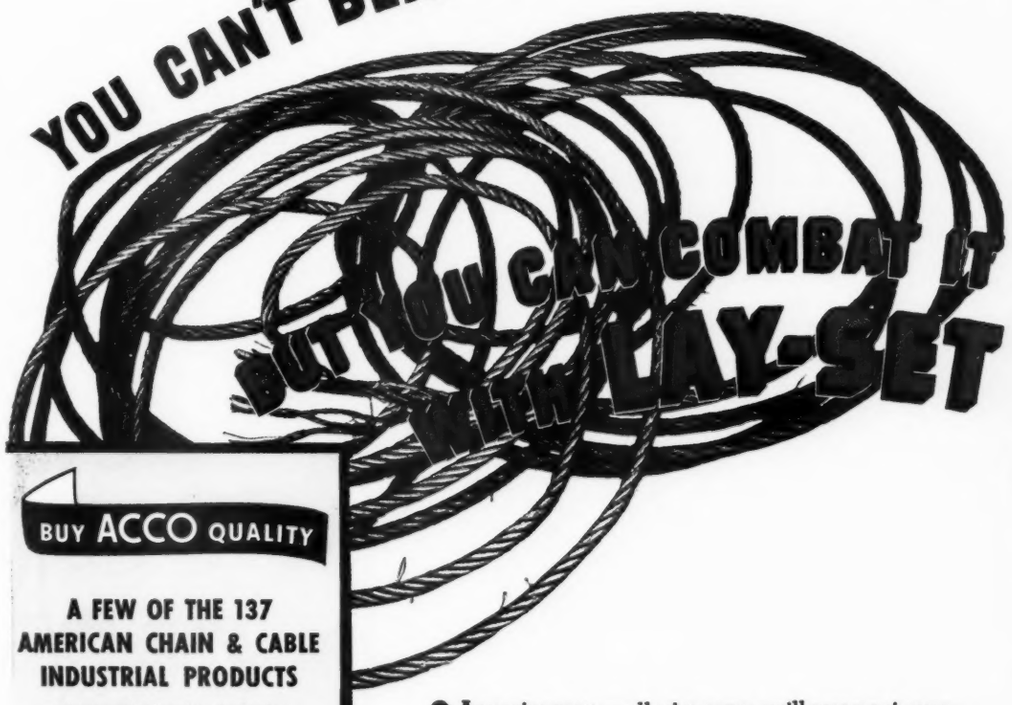

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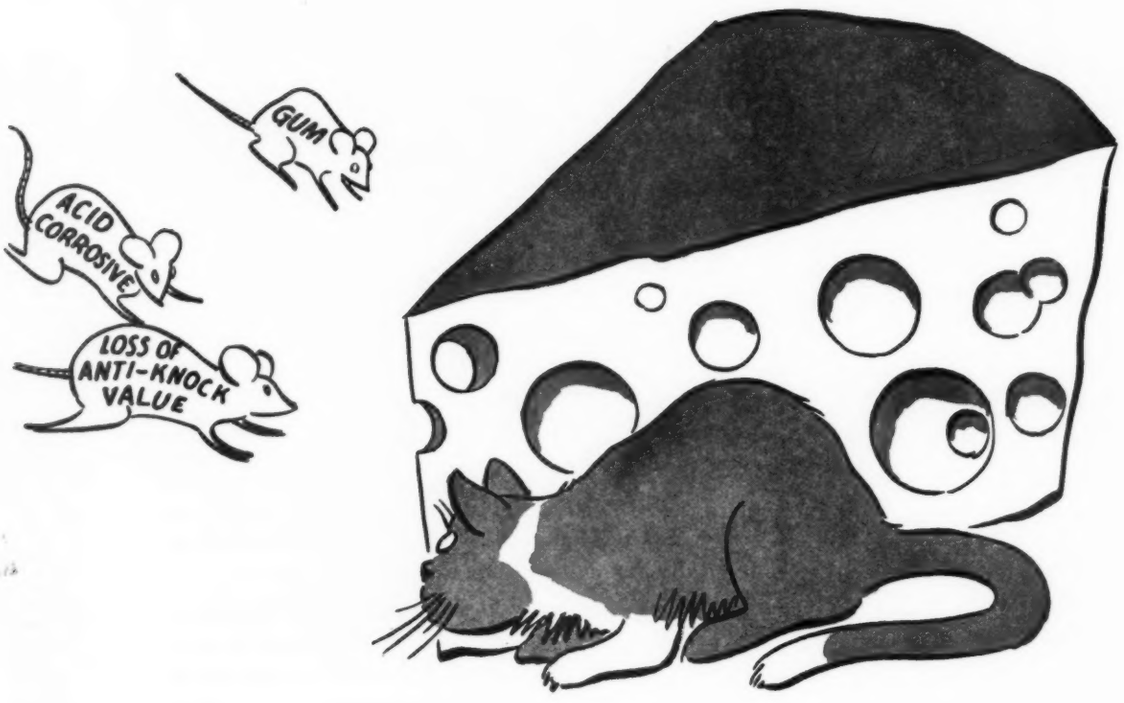

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Here's why it costs less to stabilize cracked gasoline by this modern method. Du Pont Gasoline Antioxidants prevent gum formation. They minimize the need for redistillation—often eliminate it. They reduce color loss and help maintain anti-knock quality. And they cut maintenance costs by protecting valuable equipment against acid corrosion.

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GASOLINE ANTIOXIDANTS

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph.D., Technical Editor

Optical Density Color Method for Petroleum Oils

Can you tell me anything about the optical density color scale developed by the Atlantic Refining Co., concerning instruments for the determination and dilution calculations? Are there any other methods of absolute color determination?—S. O. C.

The Atlant' Refining Co. optical density method for determining color of lubricating oils has been described by Ferris and McIlvain. They presented a brief analysis of the several methods in use and gave the details of their investigations. The following is a very brief outline:

Methods used in the United States for grading the color of lubricating oils may be grouped according to one of the following types:

1. A given thickness of oil is matched against glass or liquid standards.

2. A variable thickness of oil is matched against a standard color disk or a fixed depth of liquid standard.

3. The fraction of light absorbed by a certain thickness of oil is determined photometrically.

These investigators direct attention to objections, or failures in some respect, applicable to the known methods falling in these groups and have perfected a method which they claim is free from the listed defects.

The method developed makes use of a Duboscg colorimeter, colorimeter lamp, color cell containing a green solution and other accessories. The oil or oil solution is placed in the oil cup, placed on the right of the instrument, and rocked up and down until the fields match in intensity.

"Calculating the Color. Color values on the optical density scale are calculated from

$$\text{Optical density color} = \frac{10^3 D \times 10^N}{R}$$

where

D = optical density of neutral filter

$$= \frac{\log \text{incident light}}{\text{transmitted light}}$$

R = mm. depth of oil (or solution) to match neutral filter

N = number of dilutions (in 1 to 10 ratio)

"These color values are named optical density colors (colors on the optical density scale) because they are calculated from the depth of oil (or solution) having an optical density equal to that of the neutral filter working standard. The neutral filters as purchased are not accurately calibrated and hence must not be used until a calibration has been supplied by the control laboratory. To illustrate the calculation in a few specific cases the following examples are given:

1. Oil Not Requiring Dilution. Density neutral filter = 0.336 = D. Depth of undiluted oil to match = 12.0 mm. = R.

$$\text{Optical density color} = \frac{10^3 \times 0.336}{12.0} = 28.0$$

2. Oil Requiring Dilution. Same neutral filter, D = 0.336. Depth of solution at match = 27.0 mm. = R. Number of 1 to 10 dilutions = 2 = N.

$$\text{Optical density color} = \frac{10^3 \times 0.336 \times 10^2}{27.0} = 1244$$

Since the measurements are uncertain in the third figure, this result should be written 1240."

The details and list of other methods may be obtained from the original article.

Reference: Ferris and McIlvain, Optical Density Color Measurement for Petroleum Oils, Anal. Edn. Ind. Chem., 6, 23, 1934.

Indications of the Breakdown of Mineral Lubricating Oils

Bearing lubricating oils, circulating and noncirculating, tend to deteriorate during service. It seems that in turbine lubrication this is the most important factor in operation. May the useful limit be determined by acid value? Will you give me your opinion on this problem? —C. M.

A pure mineral lubricating oil is not liable to break down under normal conditions of use. Very frequently an oil becomes unfit for use because of contamination. The most unstable lubricating oils are those of the compounded type, containing soaps and other substances derived from animal, plant or fish substances. Some oils do undergo changes because of oxidation, especially at elevated temperatures, resulting in the formation of dark colors, sludges and acids. Change in color is difficult to detect under operating conditions, but certainly indicates when an oil is starting to break down.

The presence of acid may be conveniently detected by washing the oil with warm distilled water and then testing the water with any convenient indicator.

The Sligh oxidation test is the best known for showing the rate of oxidation of a lubricating oil. The details of this test, including a discussion of the merits of the test, were published in The Oil and Gas Journal, June 4, 1925, page 125, from which the outline following has been prepared:

The test consists in placing a 10 gm. sample of oil in a closed vessel containing oxygen at atmospheric pressure and keeping the temperature of this vessel at 200° C. (392° F.) for two and one-half hours. The oxidized sample is then diluted to a volume of 100 cc. with light petroleum naphtha and the precipitate so produced weighed. The weight of the precipitate expressed as a percentage of the weight of oil used and multiplied by 100 is taken as the oxidation number of the oil.

Thus, if a 10 gm. sample of oil yields 50 milligrams of precipitate the oil is designated as having an oxidation number of 50. Lower oxidation numbers indicate greater resistance to oxidation.

CHEMICALS FOR THE PETROLEUM INDUSTRY

ACETYLENE

Use—Welding and cutting flame with oxygen.
Form—Gas.
Formula—C_2H_2.
Molecular weight—26.
Specific gravity—0.898.
Melting point—Below zero 115.5° F.
B.t.u. per cu. ft. = 1518 per lb. = 20,930.
Limitations:
Purity min. %, 99.
Phosphuretted hydrogen % max., 0.05.
Packing—Cylinders up to 250 cu. ft. under 300 lbs. pressure.

Detectors for Testing for Presence of Inflammable Gas

What methods are in use for detecting the presence of natural gas in the air?—E. T. N.

If the gas has a distinct odor, such as from hydrogen sulfide, its presence may be detected from the odor. Some gas, especially that supplied for domestic consumption, is odorized by the introduction of a small quantity of a material having a strong characteristic odor.

Kintz and Fowler, of the U. S. Bureau of Mines, have described several gas detectors, and the following is from their circular:

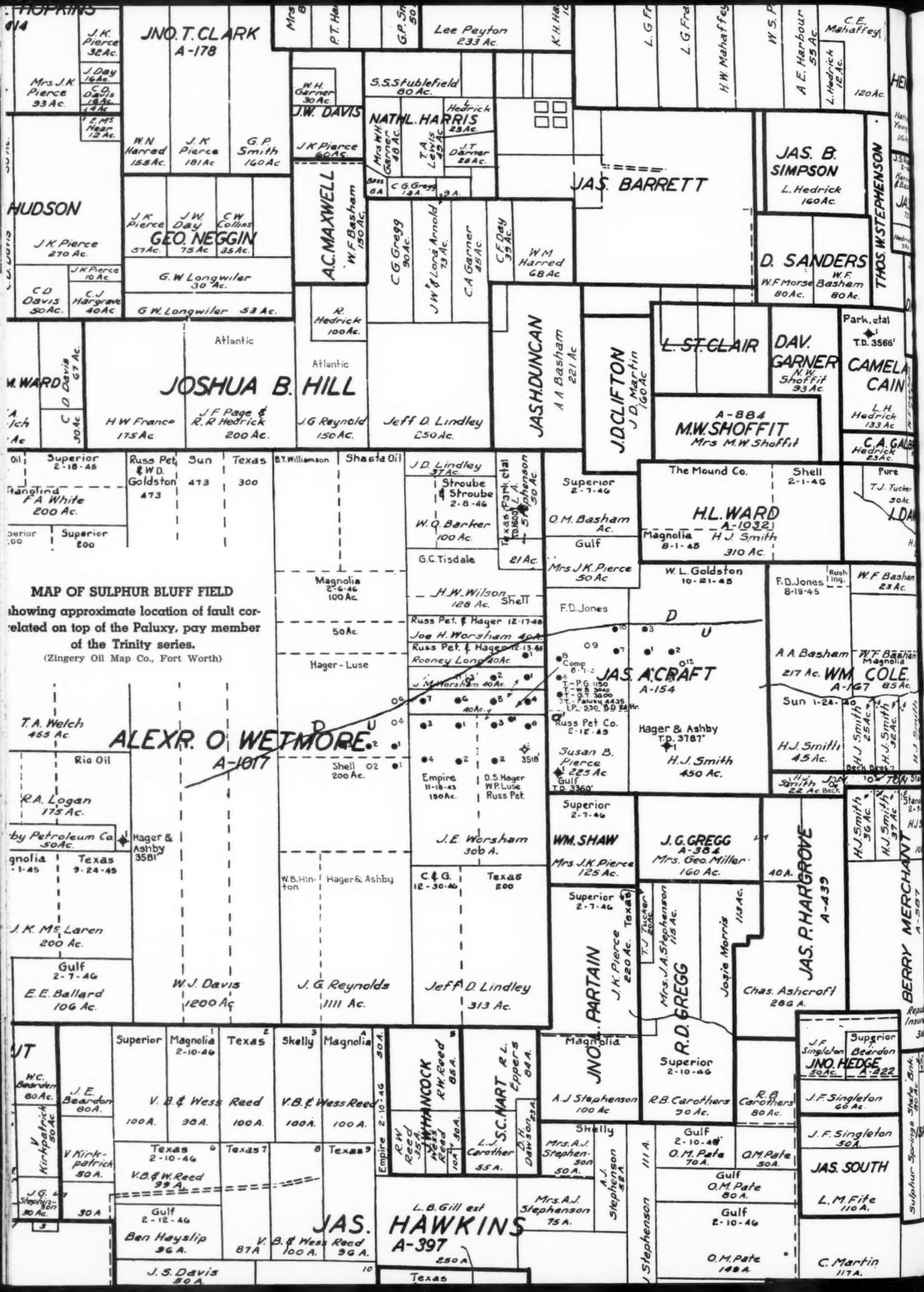
The development and commercial manufacture of efficient and accurate detectors for testing the percentages of poisonous, irritating, and inflammable gases and vapors that may be present in the atmosphere have been great boons to those engaged in health and safety work. Only within recent years has this condition been brought about, and the petroleum industry has made wide use of many of these devices as they have become available in helping solve its problems of protecting the lives and health of its employes. Many safety engineers require one or more of them as an essential part of their safety equipment and are thoroughly familiar with their construction and operation. Nevertheless, a brief resume of the operating principles of several detectors is given, with full recognition of the fact that the best way to obtain definite knowledge about them and to gain proficiency in their operation is to inspect them and use them under test conditions.

Detectors for inflammable gas that are in most common use are known as the J.W., M.S.A., and U.C.C. The several detectors differ in construction but operate on essentially the same principle, namely, that when an electrically heated filament is introduced into an atmosphere containing inflammable gas, the electrical resistance of the filament will vary in direct proportion to the amount of inflammable gas present. The variation of the resistance is recorded on a meter graduated in percentage of gas or percentage of explosibility. The instruments are reasonably accurate for percentages from zero to the explosive limits.

The Burrell detector for inflammable gas has not been used as generally as those that have been mentioned. The operation of this detector is based on the principle that the products of combustion of most inflammable gases have less volume at the same temperature and pressure than the gas that is burned. The decrease in volume is in direct proportion to the amount of gas burned.

Reference: G. M. Kintz and H. C. Fowler, Some Problems of Respiratory Protection in the Petroleum Industry, with Suggestions for Their Solution, U. S. Bureau of Mines, I. C. 6,915, 1936.

There was a short discussion of odorizing gas on this page in The Oil and Gas Journal, April 30, 1936.



MAP OF SULPHUR BLUFF FIELD
showing approximate location of fault correlated on top of the Paluxy, pay member of the Trinity series.
(Zingery Oil Map Co., Fort Worth)

SERVICE ON NEW FIELDS

SULPHUR BLUFF, TEXAS

Compiled by The Oil and Gas Journal, March 16, 1937

Approved name:

Sulphur Bluff field.

Geographic location:

Northeastern Hopkins County, Texas.

Principal towns and cities near field:

Sulphur Bluff, 2½ miles north, is a town of about 100 people. Sulphur Springs county seat of Hopkins County, is 23 miles southwest and Dallas is about 125 miles southwest. The highway from Sulphur Springs to Sulphur Bluff and the field is graveled.

Cities and towns where supply houses have branches:

Supplies and equipment houses have not moved into Sulphur Bluff or Sulphur Springs yet, material being brought from Talco, about 18 miles east and from the East Texas field, at Gladewater, Greggton and Kilgore.

Railway serving area:

There is no railway into Sulphur Bluff, the Cotton Belt and L. and A. Railway Co. running through Sulphur Springs, with the nearest point on the Cotton Belt about 10 miles south of the field.

Sites available for supply houses:

Some supply houses may go into Sulphur Bluff and Sulphur Springs, but it is doubtful since several houses are in the Talco field, nearer to the field than Sulphur Springs, and Sulphur Bluff is so far from the railroads. If supply houses do go in, leases for sites can be obtained in Sulphur Bluff, north of the field.

Character of roads:

Sulphur Bluff is on graveled road from Sulphur Springs, a dirt road leading 2½ miles south into the field. Other roads in the area are dirt and practically impassable in bad weather.

Trucking companies:

Trucking companies do not have headquarters in the field, being located either at Talco or the East Texas field.

Hotel and other accommodations:

There is no hotel at Sulphur Bluff, accommodations being cramped in that town as well as at Sulphur Springs, where there are only three hotels and but few apartments or rent houses available.

Domestic water supply:

Rainwater in cisterns, there being no available fresh water supply from wells. Drinking water will have to be trucked in as in the Talco field.

Electric power and gas companies:

The Texas Power & Light Co. is now entering the area to furnish power and light to Sulphur Bluff and the field. The Southwestern Gas & Electric Co. or Lone Star Gas Co. will probably enter the area to furnish gas, as the former did in the Talco field.

General remarks:

Food supplies, doctors, dentists and all professional attendance and all supplies will have to be brought into the field and Sulphur Bluff from Sulphur Springs and elsewhere. Small cafes are opening in the town, one drug store and one general store having supplied the area heretofore.

DEVELOPMENT

Discovery of field:

The discovery well was drilled by Dilworth Hager, Russ Petroleum Co. and W. P. Luse, all of Dallas. It was completed on July 10, 1936, at a total depth of 4,500 feet for an initial production of 500 bbls. on pump, but flows its daily allowable now.

Completions:

Twenty-seven wells have been completed to March 16. Hager, Luse and Russ Petroleum Co. have 11 wells. Shell Petroleum Corp., Empire Oil & Refining Co., F. D. Jones and Walter Goldston are other developers in the field, Jones developing farmed-out leases of Gulf Oil Corp. Hager, Luse and Russ have approximately 407 acres and Luce and Hager another 200 acres, largest lease owners.

Future activity:

Around seven rigs are kept busy now, which will probably be the average as development is continued, as there is no townlot drilling to force rapid development on offset lots or leases, the operators holding to 660-foot offsets.

DRILLING

Drilling equipment used:

Rotary drilling outfits and derricks brought from the Talco and East Texas field are being used, steam engines supplying the power. No Glen Rose (Lower Trinity) test is being considered now, although such a test will probably be drilled after the Paluxy sand horizon has been completely developed.

Derricks:

One hundred twenty-two foot and 94-foot derricks are being used.

Fuel:

Oil from wells is being used for fuel, there being insufficient gas from the wells for drilling purposes.

Size and type of boilers:

Some 75-horsepower, generally three being used, and two 100-horsepower or two 125-horsepower boilers are being used for drilling.

Bits and stems:

Drag and rock bits are used as in Talco field.

Size of hole and casing program:

Ten and three-quarter-inch casing is set around 100 feet for surface casing, and 7-inch O.D. 24-pound seamless pipe is generally specified by operators, this being set on top of the sand and cemented with the cement allowed to set the usual number of days and plug drilled and well tested. Some are started with 14¾-inch and others with 12½-inch holes.

Tubing:

The customary practice is to complete the well by running 2½-inch tubing, all wells flowing through same.

Speed of drilling:

It takes about 22 days to drill the tests, which go to around 4,500 feet, allowing 5 to 6 days for cement to set.

Character of mud:

Ordinary drilling mud is being used, as in Talco and East Texas, with no admixtures necessary, the formations making good natural mud.

Slush pumps:

Usual size, 14x7¼x18-inch. Some use 15x7¾x20-inch.

Water supply:

The only available water supply is rain water impounded in earthen tanks which the operators and companies have built on their leases or on nearby ravines or creeks. Water from wells is too brackish and salty to use in boilers.

Rig builders and contractors:

Rig builders, contractors and drilling firms are those migrating from Talco and East Texas and other fields.

PRODUCTION PRACTICE

Methods ot producing oil:

All wells flow their allowable, the discovery being the only well completed on the pump, but it flows its allowable. The low-gravity oil will demand heavy pumping units when the wells go on the pump, as in Talco. The wells are flowing through chokes on tubing.

Gravity of oil:

Gravity of the oil is around 24.5 A.P.I., a higher average than in Talco. Color is black and it has a low gasoline content, and an asphalt base, with a small amount of sulfur, as does the Talco oil.

Separators and tankage:

No separators have to be installed as there is not sufficient gas to necessitate their installation. Different types of lease tankage are being erected, principally two high 500's. Considerable steel storage has been erected on account of lack of demand for the oil.

Lifting costs:

Lifting costs are now figured between 3 and 4 cents per barrel, increasing to possibly 20 cents when the wells are later put on the pump on account of the viscous oil being hard to raise.

Water conditions:

Only one well has been drilled into bottom-hole (salt) water, and that test was immediately plugged back to shut it off. Regular spacing and careful drilling to prevent drilling into water will save the operators from premature water troubles such as found in Talco where many treating plants are in use.

Pipe lines:

The American Liberty Pipe Line Co. has a 6-inch pipe line from the field to Talco where the Humble Pipe Line Co. moves some of the Sulphur Bluff oil via its Longview station in the East Texas field, where the American Liberty Pipe Line Co. line in that field again picks it up.

Ten miles of 8-inch line is being laid from the field to a loading rack on the Cotton Belt to the south, near Saltillo. Big State Oil Corp. of Houston is laying this line. It will ship out oil via tankcar to Houston. It will also lay a gathering line, American Liberty Pipe Line Co. now being the only company operating a gathering line.

Method of completing wells:

The usual method for completing wells is to drill into the producing sand, the sand body being thicker and better in this field than at Talco, then setting casing on top of the sand.

After cementing the surface string with around 50 sacks of cement, the holes are generally drilled with 9⅞-inch bit to near the top of the Paluxy sand. Coring is begun here and continued into the sand to a sufficient depth to enable the well to flow.

After coring the sand, the hole is reamed out full size to the bottom. Either 22- or 24-pound seamless pipe is then cemented in the hole at top of the oil sand. If lighter casing is used some 400 sacks of cement are used to reinforce it and also shut off any water in the Woodbine sand. Where the heavier casing is used only 325 sacks of cement are used.

The cement is allowed to set for 72 hours, the plug is drilled and the well circulated. Two and a half-inch tubing is then run into the well and the well is washed in by using from 300 to 400 bbls. of oil, the well flowing from its own pressure, the pressure on the tubing and casing varying from 170 to 250 pounds.

GENERAL GEOLOGY

The discovery well was located as a result of surface geology, core drilling and from information obtained from drilling several dry holes to the Woodbine sand. A faulted structure, such as found in Talco, which is on the extension of the Balcones fault which runs north and northeast from the Mexia and Powell fields, was mapped on the subsurface data accumulated.

The dip to the southeast, away from the fault, appears twice as fast as in the Talco field; or, around 225 to 250 feet per mile. This sharp dip will consequently limit the field to not over three-quarters of a mile at the center, tapering at the ends. The field is expected to be from 5 to 7 miles in length when developed.

The oil, coming from the Paluxy sand, upper member of the Trinity series, is of higher gravity than in Talco. In the Sulphur Bluff field, the good saturated sand commences 20 to 40 feet below the top of the Paluxy formation. It has been proved to have a thickness of almost 40 feet with a few thin shale and bentonite breaks. It is not uncommon to have 20 to 30 feet of solid saturated sand.

The Paluxy sand is the sheet sand that carries a great abundance of water, and as there is but little gas in any of the wells, the recovery from the sand will be due almost entirely to the water drive in the Paluxy. The downthrow on the fault is to the north, and over 500 feet. The dip of the fault plane to the north is about 45 degrees. Production is entirely on the upthrow side of the fault. There is a considerable bending over or drag on the upthrow side into the fault.

The upper sands have been rather fine grained but the lower part of the Paluxy is medium coarse to coarse grained and very permeable.

The estimated ultimate size of the field is between 1,300 and 1,700 acres, and possibly more, ultimate recovery being estimated at around 25,000,000 bbls.

The water level was established when one well was drilled into it, drilling 13 feet of black sand from 4,564-77 feet.

The idea of development is to drill one well to 10 acres, tending to maintain an equal and uniform water drive, and forestall producing of water with the oil. This spacing will also keep down costs.

Drilling costs:

It costs around $21,500 to drill and complete a well in the field, another $1,000 being necessary to put the wells on the pump when necessary.

Future of Petroleum Exploration in the United States

By E. DeGOLYER

Prospecting for new deposits is of prime importance to the petroleum industry and is a part of the ordinary routine day-by-day business of that industry to an extent not true in any other type of mining. This condition arises from no fault or virtue inherent in the industry but rather is a result of the excessive demands of increasing consumption—demands which are really exorbitant in ratio to any reserve which we possess.

It could hardly be otherwise for an industry faced with such demands for its products. Currently, the equivalent of 10 to 12 100,000,000-bbl. pools is required annually to keep proved reserves, which have never been too great, in balance with the annual consumption of 1,000,000,000 to 1,200,000,000 bbls. now indicated for the United States alone. We now consume annually more petroleum than was produced during the first half of the duration of the industry. We consume annually more than the equivalent of five or six Spindletops; two or three Long Beaches, Cushings, Salt Creeks, Bradfords, or Oklahoma Cities; one and one-half Conroes, Yates, or Kettleman Hills: or a third to a fourth of a phenomenal East Texas pool. All of the oil produced in Pennsylvania since the beginning of the industry or all of the oil produced in the Gulf Coastal Plain of Texas and Louisiana, as a result of 35 years of intensive search and development, is sufficient to meet only one year's requirements. The entire past production of California, the banner state, would meet our national requirements for only five to six years at the present rate of consumption. In fact, all of the petroleum hitherto produced in the 77-year life of the industry in the United States is sufficient to satisfy our requirements at the present rate of consumption for only 15 to 17 years.

A.A.P.G.—Before annual meeting, American Association of Petroleum Geologists, Los Angeles, March, 1937

We can estimate with reasonable accuracy the amount of the nation's proved reserves and we can speculate as to the amount of oil yet to be discovered. Reserves almost always appear to be low or inadequate and even in the midst of overproduction, the individual company is concerned for its own reserves and the industry as a whole searches actively for the pools which must produce our supplies only a few years hence. We have been prematurely alarmed in the past, or so it now appears, but although we cannot prove it, common sense tells us that we cannot continue at our present rate of production indefinitely nor, in terms of the life of a nation, very far into the future.

That we as a nation should live only for today and willingly and carelessly deplete our petroleum reserves to the point where we may soon be left with only an inadequate and high-cost production and, the greatest consuming group in the world, at the mercy of foreign supply and foreign prices seems to me to be unthinkable.

Conservation has been sanely defined as wise use. The wise use of our petroleum resources requires that we do several things, among which are:

1. Admit and even welcome foreign oil in so far as it can be done without too great dislocation of our own industry.
2. Encourage American companies to secure foreign reserves.
3. Advance the technique of prospecting for oil.
4. Advance the technique of producing oil.
5. Increase the efficiency of refining processes.
6. Increase the efficiency of our use of motor fuel.
7. Refrain from the less desirable uses of oil, such as burning it for fuel.

I do not expect agreement with this outline. Parts of it may be impracticable. I do not even propose to discuss it further.

We, as geologists, are concerned chiefly with the advancement of the technique of prospecting and production. The petroleum geologist is generally regarded by the industry as well as by his brother geologists as a prospector. It is our particular business and it is, therefore, to the prospecting problem that I address myself. . . . .

The first geologic work was largely surface geology for the discovery of structure. Drilling was to shallow depths. Most of the oil-bearing areas were mapped, structures with adequate surface expression were found and explored and by 1920 there seemed to be but little more to be done by this method.

Subsurface studies have always been important. Carried on at first as a part of the normal geologic survey of any area, and largely on the basis of drillers' logs, by 1917, such studies had begun to be specialized and the work of a special department. Drillers' logs were poor and efforts to construct more exact logs on the basis of sample examinations were made. By 1925 micropaleontology began to form the real basis and impetus for subsurface studies though many areas still rely entirely or nearly so on lithologic determinations. This subsurface technique, dependent as it is upon the drilling of wells, will probably continue to be the backbone of petroleum geology as long as exploration continues.

In the early 1920s the science of the physicist was brought to the aid of the geologist for the solution of the problem of oil prospecting and geophysics became important. Its first and greatest successes have been in the finding of additional salt domes in the Gulf Coast area—an area previously amenable only to a type of prospecting hardly more rational than random drilling. With the vigorous and hectic campaigns which followed the successes of these new methods, their use spread until we can now see the possibility of exhaustion or at least the point of considerably diminished returns from the use of existing techniques.

Geophysics has grown up too much alone for the greatest advancement of its usefulness as a prospecting tool. In the broadest sense, it is the science of earth physics and includes geology among a host of other sciences. As we know it in the petroleum industry, however, it is strictly a geological tool—new implementation for the geologist who, by its use, can secure important and critical geological information not otherwise available to him.

The interpretation of geophysical data in useful terms is ultimately a problem of geology. The correct solution is generally a question of geological probability and in many cases is so simple and

Large unitized drilling rig

obvious that the need for expert solution is practically nil. The earliest and greatest successes of geophysics—the search for the so-called shallow salt domes of the Gulf Coastal Plain — was an operation of this type. Velocities of 16,000-18,000 feet per second on a time distance curve from a refraction profile was almost positive evidence of the existence of a salt dome in this region and not to be interpreted otherwise. This unique interpretation was as well known to the geophysicist as to the geologist and a whole congress of geologists could not have improved the interpretation.

Most of the problems which involve geophysics today, however, are much less simple and I believe that we can agree, geologist and geophysicist alike, that future problems are likely to become increasingly complex and to require more and more geological direction as to the placing of points from which information is to be secured and that finally skilled geological interpretation is essential.

The history of prospecting for petroleum in the United States is also largely a question of a series of new techniques—of new methods of attack. Each of these in turn has been used vigorously over large areas until its usefulness has been largely exhausted. We started with surface mapping but by 1920 much of the surface of the known petroliferous areas had been mapped. Core drilling followed until the cream of the core-drill possibilities was gone. Geophysics came in and failing further advances or the development of new methods will in turn serve its purpose and become of less importance. Whether some new geophysical method, possibly a direct one, will in turn be developed in order to meet a pressing need of finding the so-called nonstructural oil is a matter for speculation. Serious research to such end is under way.

Subsurface Studies

As already intimated, subsurface studies are the one continuing technique which will probably continue as long as we have an industry. Even this technique changes, however. We started using drillers' logs, then determination from samples and cores, then paleontological determinations with the aid of micropaleontology, now electrical logs. It is perhaps not too much to look into the future and see deep wells drilled for geological information alone. None of these techniques is ever entirely exhausted and most of them overlap but, except for subsurface studies, most of them reach a marginal and practically exhausted stage.

No consideration of prospecting is even approximately complete which fails to acknowledge the tremendous importance both as prime discoverers and as contributary discoverers of the thousands of wildcat wells drilled casually or at random by individuals, syndicates, etc., without benefit of geologic clergy. Geologists generally have been conservative and it is the venturesome wildcatter who has stepped out and opened up new areas. This is a brilliant example of the effectiveness of multiple effort. The development of the petroleum reserves of the United States has been far more of a result of cooperative effort than we are likely to ever realize.

Notwithstanding its vital importance to the individual enterprise, to the industry, to the nation, and to the world, prospecting has been a function of the producing branch since the earliest days of the industry. Wells were shallow, definite, and probably less expensive than any other type of prospecting could have been in the early days of the industry, even if a technique of prospecting had been developed, which it had not, and there were venturesome souls willing and able to drill enough wildcat wells to keep the industry in its characteristic rythm of over and under production.

The trend over the 20 years during which prospecting has been emerging from the broader field of production as a separate and definite technique, as well as the necessities of the future, indicates the establishment of prospecting or exploration on a basis almost as distinct from production or exploitation as is refining or marketing.

The exploration department of the future will include geological work; subsurface, surface, stratigraphy, paleontology, geophysics; scouting, engineering, and land and leasing, as it does effectively in many of the best organized companies of today, and it will also include organization for the drilling of exploratory wells. Its business will be strictly that of securing oil reserves and for greater effectiveness, it will be relieved of all other duties in so far as possible.

Three definite and outstanding advantages should result from such form of organization. First and foremost should come the development of special equipment and practice for the drilling of exploratory or wildcat wells. Secondly should come the development of cost accounting and statistical control adequate to determine the all-important cost of oil finding. Thirdly, the focusing of attention on exploratory effort and the fixing of responsibility for degree of success should advance materially the development and application of the technique of prospecting.

Wildcat Drilling

Exploratory wells—wildcats—are being drilled with the same type of equipment and by the same practice as wells intended to develop proved fields. Located in unproved ground and often without definite objectives, they are generally more costly than development wells. Ours is unique among the mineral industries again in that the prospect hole is more costly than the mine.

This condition exists because we have never considered ourselves able to prove the existence of commercially important oil deposits without actually completing a producing well. I suggest, however, that with improved coring, core analysis, electrical logging, casing perforation, stage cementing, drill stem testing, etc., we have advanced very far in perfecting testing methods and that we should be near the point where we can determine whether or not oil in commercial quantities is present without actually completing a well. Properly supported, engineers should be able to develop a comparatively light and mobile rig for drilling holes adequate only for test purposes quickly and cheaply. It is even conceivable that the future may see wells drilled solely for the purpose of securing electrical logs. If negative results should be secured, in most instances the prospect would be condemned as surely as by a large and expensive hole. If positive, the actual drilling of the discovery producing well and the setting in motion of the long train of consequences which follow discovery—the oftentimes enforced development of an oil field—might be postponed to suit the convenience of the prospector.

I believe that students of the problems of prospecting will agree that we are reaching the point where we shall be prospecting in the United States more and more for the so-called stratigraphic rather than the purely structural accumulations and that these pools will require considerably more drilling for discovery than the structural type of pool. Many of the wells will be drilled essentially for geological information—glorified core drilling. This development of prospecting technique will make it even more imperative to develop a technique of prospecting drilling distinct from and much cheaper than existing types of drilling for production.

Second in importance should come the establishment of cost accounting as a control over our prospecting effort and more critical statistical analyses of our successes and failures in prospecting. Above all, we should determine the cost of oil finding—the cost of reducing oil reserves to reasonably knowledgeable possession and one of the most important costs in the entire oil industry.

Company accounts are not set up generally in a form which makes the determination of prospecting costs a problem for easy solution and this is particularly true for finding costs. Most companies determine an overall production cost per unit barrel which includes most of the various components of a finding cost, but it is essentially the cost of finding oil to be produced in the future, and in the normal per barrel production cost it is combined with the cost of mining oil largely found in previous years and is arbitrary and inexact. It is of little or no value as a cost control to prospecting effort although as a practical business matter the production cost per barrel figure is probably better than the more exact and correct cost would be, since it combines the actual mining cost with the current finding or reserve replacement cost.

One of the difficulties in determining finding costs is that accountants have to make assumptions upon which to proceed; they may even have to make more than one set of assumptions and determine their costs within limits rather than as precise figures. Furthermore, the essential estimate of reserves is likely to be only approximate at a time near discovery and to become exact only after the property has been fully developed and has produced for some years. Finding costs will also vary tremendously when calculated for periods of time as short as a single year. I have seen the finding costs for a major company where those for the worst year are 27¼ times as great as those for the best year.

As to critical analyses of statistics, we do not even have general statistics for the industry as a whole on the results and hazards of prospecting. This is a problem with which the American Petroleum Institute and the association might well concern themselves.

As geologists, we have been too prone to accept our failures philosophically and to spend too much time in considering the development of our successes. If I might draw upon my own experience in developing a geophysical method, I would recommend that we waste as little time as possible on the successes but that we restudy critically and seriously the failures. It is the proper method to advance and perfect the technique of prospecting.

I fear that I have not made the desirability and even necessity for cost accounting in prospecting as clear as it might be. The actual cost of producing oil is the cost of finding—the cost of reducing to knowledgeable possession—of getting title to the oil in ground—plus the cost of mining the same oil. How can you decide whether to buy proved oil or prospect for it if you do not know what the cost of finding is likely to be?

Cost Control

Cost control can even wisely go much further; e.g., determining the unit cost of finding prospects. It may be that prospects can frequently be bought more cheaply than they can be found. Do we know at present?

All in all, our necessity is for a considered and critical control, cost and statistical, of this normal and essential part of the oil industry.

Again let me say that the establishment of a separate and distinct prospecting or exploratory department should result in the focussing of attention on exploratory effort and the fixing of responsibility for the degree of success and should result in better and more effective work being done than by any other method. Fixing of responsibility for increasing their company's reserves and relief from all outside and extraneous duties, even the pleasant one of watching an unimportant well being "brought in" in a developing field, can only result in increasing the effectiveness of a company's prospecting effort.

Finally, the health of any oil company today is dependent upon its reserves. This is even true for the industry as a whole. The industry cannot deny that it is, to borrow terms from the mathematician, a dependent function of an independent variable — exploration — and exploration is, as I have said before, a part of the ordinary routine of the petroleum industry to an extent not true for any other mineral industry. Proved reserves in terms of annual consumption may be expressed for coal in thousands of years, for iron in hundreds of years, for copper in tens of years, but for oil they are always expressed in years and not too many of them.

Maintaining reserves for a company or for the nation can only be accomplished by increasing the effectiveness of prospecting. Exploration is a highly skilled and highly technical process on averages and likely to become more so in the future. It is my belief that the future of petroleum exploration lies in its organization as a separate department, developing and refining its equipment and technique, and accepting clear responsibility for the success or failure of its efforts.

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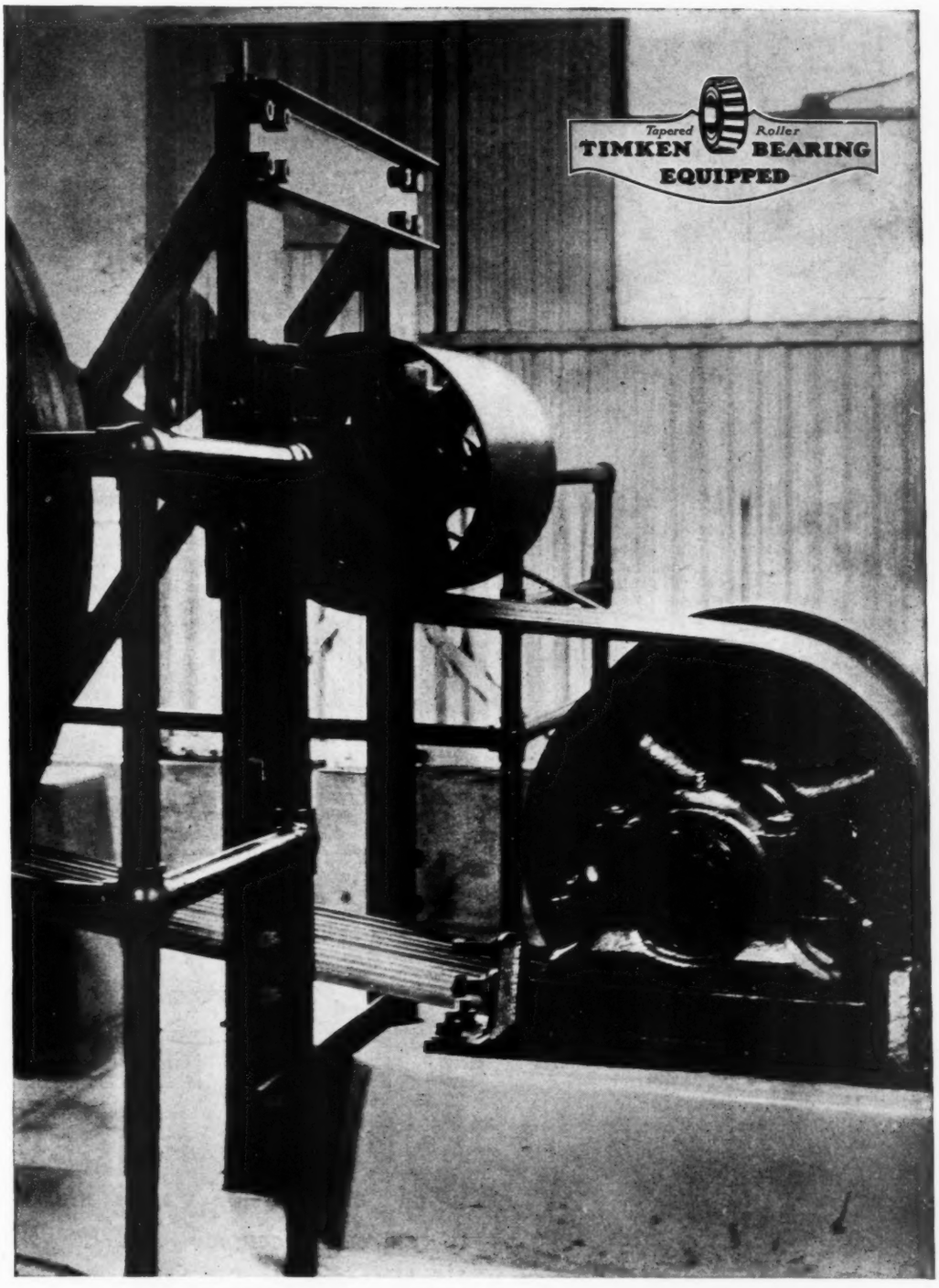

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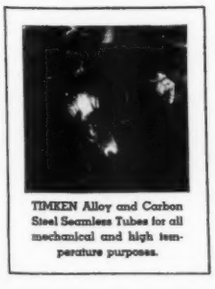

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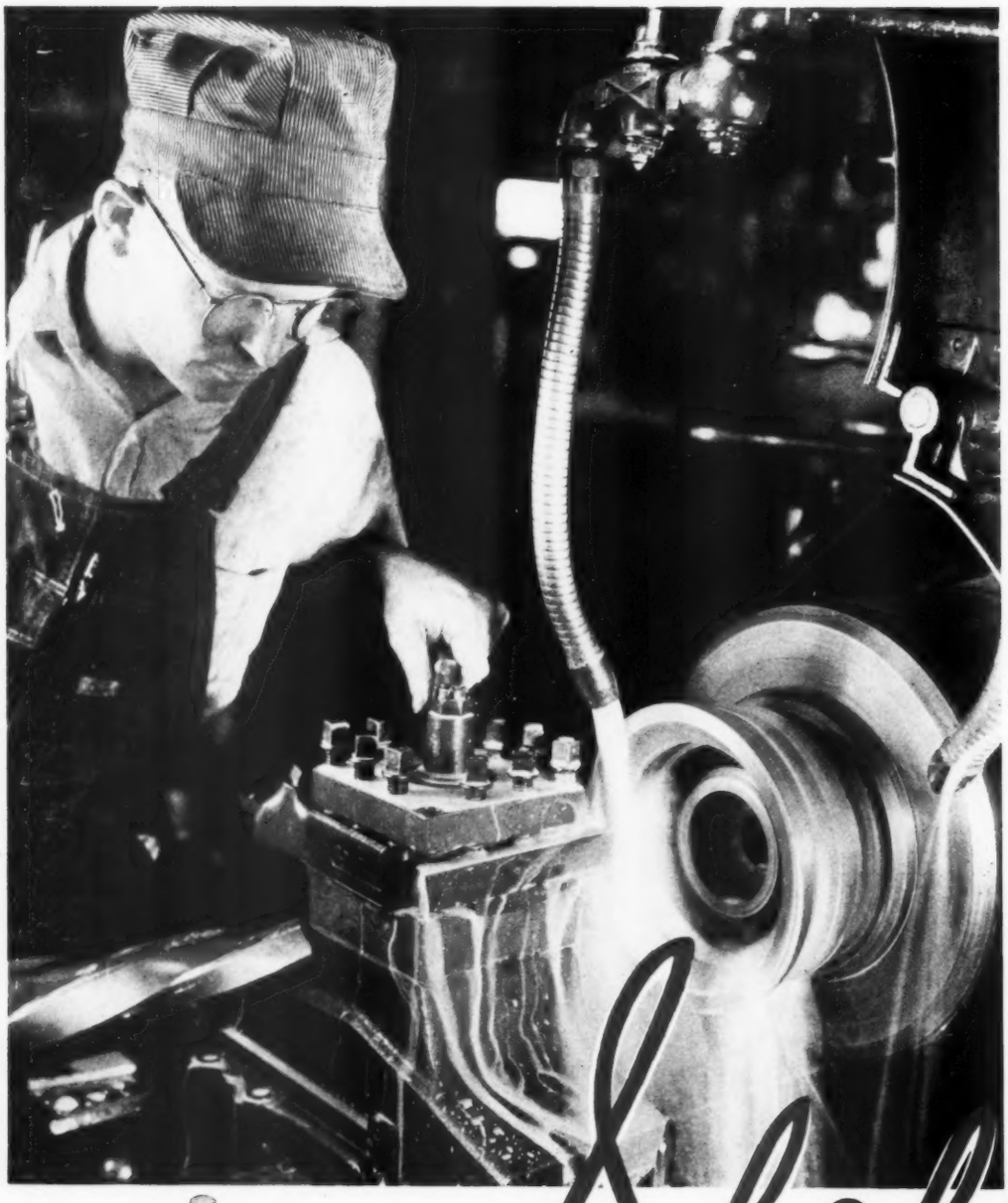

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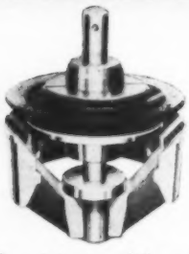

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FIELD OPERATIONS

Summarizing the Week's Developments

The new Buckeye field in Gladwin County, Michigan, is mostly responsible for the 12,000-bbl. increase in production of the state over the output at the opening of the year. Last week the pool was extended 5 miles southeasterly and it is believed it will make the largest field in area, if not in production, the state has had.

TEXAS

A new pool is assured the Gulf Coast, Texas, area, north of Palacios, although the well is not yet completed. A good showing of oil in a coring test in a wildcat in Jackson County, indicates the possibility of another shore line pool like Pickett Ridge. The first oil production in the Cotton Lake area, Chambers County, is recorded. In Southwest Texas, the Fault Line zone in Caldwell County has two wildcats showing production from the Chalk formation. Other news of interest includes extensions and new sand discoveries. In West Texas two widely separated wells in Pecos County are showing production in preliminary tests. An Ordovician test in Crane County proved a failure at 6,829 feet. Ward, Winkler and Ector counties continue to report wells with initial production of 1,000 bbls. and upwards, the largest of the week having been a 3,880-bbl. well in Ector County. One offset to the discovery well in the Ivy pool, Shackelford County, was dry, and another offset is a producing well East of the Talco field in Titus County a deep Trinity test proved dry, but another is to be drilled in the center of the field.

ARK.-LA.-TEX. DIVISION

Northern Shelby County, on the east Texas border, appears to have a new pool in the making. The North Rodessa field which threatens to pour over into Arkansas has its fifth oil well. Four locations have been staked on the Arkansas side. A Travis Peak test in the Rodessa area, Caddo Parish, Louisiana, is on the way down. A salt dome test in Lamar County, Mississippi, is dry but another test will be started 700 feet away.

KANSAS

The Graber pool, McPherson County, Kansas, was extended one-fourth mile north. A new producing horizon was uncovered in the Davidson area, Barton County. Discovery wells were completed in Ellis, Stafford and Rice counties. A large producer was completed in the Weathered pool, Cowley County.

OKLAHOMA

A wildcat south of the Fault line in the Fitts field, Pontotoc County, uncovered Viola lime pay. Two northern outposts in the Fitts area made large potentials. The North Bethel pool, Seminole County, was extended one location southeast. A gusher was completed in the Crescent field, Logan County. Discovery of gusher production east of the Langston pool, Logan County, has revived activity in that area.

NEW MEXICO

Two Lea County wildcats opened producing areas, one 3 miles east of the south end of the Monument field, and one 2 miles north of the Hardy pool. Sixteen producers were completed in Lea County and two in Eddy County.

CALIFORNIA

Recommended production in California has been raised from 551,000 bbls. to 603,000 bbls. in April by the Central Committee of Producers. The discovery well in the Newhall-Saugus area, Los Angeles Basin, started at 350 bbls. per day. A new well in the El Segundo field started at 3,720 bbls., the largest well in the field.

Completions in All Fields

(Week Ending March 27, 1937)

	Oil	Gas	Dry	Total	1937 total comp. to date	1936 total comp. to date
Penna. Grade Fields	68	16	2	86	901	697
Lima Field	2	0	0	2	16	12
Central Ohio	2	11	5	18	207	57
Indiana	0	0	0	0	27	35
Kentucky	0	0	0	0	28	47
Illinois	5	1	0	6	14	11
Michigan	6	5	2	13	182	174
Kansas	28	1	5	34	464	320
Oklahoma	34	2	20	56	597	529
Texas:						
North Central Texas	23	0	21	44	620	580
West Texas	45	0	6	51	568	290
Texas Panhandle	6	1	0	7	140	159
East Texas	30	0	0	30	471	622
East Central Texas	9	0	5	14	153	57
East Texas border	9	0	0	9	100	7
Gulf Coast Texas	15	0	9	24	286	250
Southwest Texas	57	6	27	90	797	604
Total Texas	194	7	68	269	3,135	2,569
North Louisiana	5	1	1	7	93	142
Gulf Coast Louisiana	6	0	3	9	116	94
Total Louisiana	11	1	4	16	209	236
Arkansas	1	0	3	4	25	24
Montana	2	0	2	4	19	23
Wyoming	1	0	0	1	23	20
Colorado	0	0	0	0	6	9
New Mexico	18	0	0	18	180	108
Utah	0	0	0	0	0	4
California	29	0	9	38	311	269
Total United States	401	44	120	565	6,344	5,144
Total previous week	396	32	96	524		
Difference	5	12	24	41		

Outstanding Fields—Highlights

(Week Ending March 27, 1937)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
Anahuac	2	7	2	748	159	14,347
Hastings	4	14	3	1,540	148	13,131
Loma Novia	2	7	6	2,565	675	19,900
Seven Sisters	2	4	1	1,100	386	10,570
Saxet	6	24	9	1,595	393	36,520
Lopez	1	5	5	1,110	305	9,150
East Texas	41	109	30	1,175	22,370	459,467
Talco	21	45	5	1,277	248	23,900
OKLAHOMA						
Oklahoma City	1	19	4	8,483	1,102	150,800
Fitts	6	54	6	5,131	663	89,700
Burbank-So. Burbank	0	6	0	0	2,166	23,725
KANSAS						
Ellis County	3	24	1	1,208	82	5,315
Reno County	5	31	3	1,120	382	20,950
Russell County	7	54	6	7,506	623	24,550
Rice County	8	64	7	3,472	739	44,963
NEW MEXICO						
Lea County	18	99	16	3,380	2,051	101,070
LOUISIANA-TEXAS						
Rodessa, La.	1	15	2	970	360	49,020
Rodessa, Tex.	9	41	9	3,554	245	45,375
Gillis, La.	1	4	0	0	57	14,478
Tepetate, La.	1	3	1	157	42	5,597
MICHIGAN						
Porter-Yost	2	5	2	1,060	433	13,400
Buckeye	10	65	3	2,560	22	12,113

Michigan Field Report

By
PAUL A. ELLIOTT

BUCKEYE FIELD GIVEN FIVE-MILE SOUTHEAST EXTENSION

MUSKEGON, Mich., Mar. 29.—A 5-mile southeast extension of the new Buckeye Township, Gladwin County, oil field, was the most important oil development of the week in Michigan.

McClanahan Oil Co. No. 1 Avery Estate, SW NW NW section 10-17n-1e, Billings Township, same county, filled 1,200 feet with oil found at 116 feet in the Dundee limestone, topped at 3,490 feet. The showing encourages the belief of many operators that the Buckeye field will be the greatest of any in Michigan in acreage, and perhaps in production.

With about 8 more feet of drilling proposed, the test strengthened the theory that eventually a stretch of more than 5½ miles between the Goll, Graves & Mechling No. 1 Oard, in the southeast part of the township, and the Wicklund-State in the northeast section eventually will be directly connected by a forest of derricks.

Already more than 80 projects are in various stages of activity from making location to nearing completion, fully half a dozen are scheduled to finish this week.

Dundee Regular

Regularity of the many new Dundee producers completing or nearing completion in Buckeye is one of the strong factors supporting the contention that the two widely separated sectors are part of the same pool.

No more than a few inches variation in the top of the Dundee has been logged in completions to date, it is reported by drillers.

Another, though not quite as strong an indication of future possibilities, was the discovery last week of 40 bbls. daily from the Dundee by the Muskegon Development Co. in No. 1 McMahan, SW SW NW section 25, same township. Although disappointingly small in initial output, this test, lying between the Oard and Wicklund sectors, was a further indication the two soon will be connected.

Both the McClanahan-Avery in Billings and the Muskegon-McMahan in Buckeye were expected to make commercial production after acid treatment, already started on the latter and contemplated in the former.

The McMahan well topped Dundee limestone at 3,502 feet and was drilled to 3,652 feet, first striking oil pay sands at 3,633 feet, it was reported by company officials.

Other Completions

Two of three completions last week making more than 1,000 bbls. daily initial as Dundee oil wells were in the Buckeye field.

Cryden Petroleum and Rowmor corporations finished No. 1 Shaffer, SW SE SW section 12-18n-1w, Buckeye, flowing about 55 bbls. a day, naturally, for an estimated daily output of 1,320 bbls. without acid treatment. Dundee was topped at 3,565 feet and the hole drilled to 3,632 feet.

Michigan Producing & Refining Corp. brought in nearly as large a well when No. 1 Frances, NE NW NW section 14, made 45 to 50 bbls. an hour for an estimated 1,200 bbls. daily before acidizing at a total depth of 3,636 feet.

C. W. Teater struck a show of oil in the Traverse limestone at 2,950 feet in No. 1 Adams, SW SW SW section 12, same township, but was expected to drill on to the Dundee.

Half a dozen others in widely scattered sections of the field were cased, or drilling into the Dundee as the week closed, with operators anticipating an even busier schedule of completions during coming weeks.

Beaverton

M. F. Whitehill was still testing No. 1 Rackel Estate, NE NE SW section 11-17n-2w, Beaverton Township, in the first Gladwin County field after making 25 bbls. at 3,898 feet but dropping to 10 bbls. a day after treating with 650 gallons of acid. It may yet be plugged, however.

Midland County

A surprise of the week was the Pure Oil Co. completion of No. 5-B Corning Estate, C S half NW NW section 12-13n-2w, in Jasper Township, Midland County, with a flow of 1,035 bbls. in 24 hours, after an acid treatment. Dundee was topped at 3,396 feet and the hole bottomed at 3,444 feet. It made 170 bbls. naturally, being boosted seven times by acidization.

The Pure No. 1-B Eldredge, S half NE NW section 7-13n-1w, Porter Township, in the same Porter-Yost field, was completed as a small producer, good for 25 to 50 bbls. of Dundee oil after acidizing.

Schelling & Schrot put No. 1 Holmes, NE NW NW section 8-14n-2w, Greendale Township, on the pump after drilling from 3,516 to 3,549 feet, in the Dundee. No estimate of daily prospects was available, though commercial output was anticipated.

Two other Porter Township tests were nearing completion in the Dundee.

The Clayton Township, Arenac County, and Sherman Township, Isabella County, fields, brought in about the time of the Buckeye-Wicklund discovery, met with indifferent success last week but showed several promising signs.

Clayton—Arenac

Devonian Oil Co. increased the daily output of No. 1 F. Peavy, NE SW SE section 4-20n-4e, Clayton Township, Arenac County, from an estimated 225 bbls. to 425 bbls. per day last week.

Drilling north and west of the discovery well, the Peavy revealed an upper pay, absent from many wells in this field but responsible for heavier pay in several early wells upon which first prospects of a pool of major importance were based. McClanahan Oil Co. struck the upper pay in three tests on the discovery lease.

The Peavy well first encountered the pay 12 feet in the Dundee topped at 2,413 feet and was expected to drill about 17 feet deeper in the upper pay.

Turner Petroleum Co. also added 150 bbls. daily to its original output of 25 bbls. on the pump when No. 1 Thompson, NW SE SE section 4, was first drilled into the Dundee in January for temporary completion at 2,590 feet. It recently was deepened to 2,635 feet with a resulting flow of 175 bbls. daily.

A flow of 20,000,000 feet daily of Berea gas was uncovered by the Gordon Oil Co. in No. 2 Crandall, NW NE SE section 10, Clayton Township, a north offset to No. 1 Crandall, which made 320 bbls. of oil initially from the Dundee after mudding off a flow of 24,000,000 feet of gas. No. 2 also will be drilled to Dundee for oil, as no immediate market for the Arenac gas has been developed.

Sherman—Isabella

Pure Oil Co. was preparing to treat No. 1 Leiter, SE NW NE section 33-15n-6w, Sherman Township, Isabella County, with 250 gallons of acid after it made 497 bbls. naturally in 24 hours from a depth of 3,707 feet, in Dundee lime.

A flow of 6,000,000 feet of Michigan Stray gas was being passed up by Ward J. Blunt in No. 1 Mitchell, trustee, to drill deeper for oil in the Dundee. It is in SE SE SE section 29, Sherman Township. Operators believe the oil pool will extend in this direction.

Vernon Township

The T. F. Caldwell, Inc., No. 1 Regan, and Mahar, NW NW NW section 36-16n-4w, Vernon Township, finally was declared dry and abandoned at 3,755½ feet after long testing a light show. It was reported the Nollem Oil & Gas Co. also was planning to abandon the No. 5 Thayer.

Crystal—Montcalm

Indications of a possible extension of the Crystal-Montcalm oil field were seen in the show of oil encountered by the Bushnell Oil & Gas Co. in No. 1 Lott, NE NW NW section 13-10n-5w, Crystal Township.

Ogemaw County

Three tests were drilling in Dundee pay sands in the Ogemaw and West Branch Township sections of the Ogemaw County field, but none were completed.

Gassers

Three small gassers were completed last week extending the Tri-Townships field in Belvidere Township, Montcalm County, while one struck a commercial flow of gas in Ravenna Township, Muskegon County, and one was finished in the Gratiot County field.

Wolverine Natural Gas Corp. got the largest of the four aggregating 18,500,000 feet daily. It was No. 1 Kirby and others, C NE section 12-12n-7w, the first well drilled in central Michigan under the new one well to 160 acres plan adopted for gas in Michigan after its success in the Ravenna field. The Kirby well flowed 12,500,000 feet.

J. C. Arthurs, Inc., completed No. 1 McDonald, C SE NE section 8, same township, for 3,500,000 feet open flow, while the Ide & Glavin No. 1 Schmied Park, C NE NW section 6, gauged 1,500,000 feet.

West Michigan Consumers Co. hit 350,000 feet naturally in No. 1 Hoyle and others, but was expected to make more than 1,000,000 feet after a sand-tamped shot in the Berea.

Same company increased the flow of No. 1 Jibson, C NW section 9-9n-14w, Ravenna Township, from 620,000 to 1,300,000 feet with a shot.

W. E. Ross completed No. 1 Standish, C NW NW section 9-10n-4w, in the New Haven Township, Gratiot County, gas field with a flow of 5,500,000 feet of Michigan Stray gas daily at 965 feet.

North Louisiana, Arkansas

SHOWING IN SHELBY COUNTY, TEXAS, POINTS TO NEW FIELD

By MITCHELL TUCKER

SHREVEPORT, La., Mar. 29.—A wildcat test in the northern part of Shelby County, Texas, showing indications of a possible oil field opener; the addition of the second producer in the recently discovered Lisbon field of Claiborne Parish, Louisiana, and preparatory steps being made to thoroughly test attractive showings of oil in a Union County, Arkansas, wildcat, constituted the main points of interest in the Ark.-La.-Tex. area during the past week.

Bottom-Hole Pressures

The weighted average bottom-hole pressure on the Louisiana side of the Rodessa field, as indicated by a recent survey of the 97 key wells, showed an overall drop of 10 pounds in February, according to figures released by the engineering subcommittee of the Rodessa Operators Committee. The following tabulation indicates the marked improvement that has been effected during recent months:

Date of survey—	Pressure	Pounds loss	Days	Daily loss in B.H.P. (lbs.)
July 7, 1936	2,314			
August 27, 1936	2,162	152	51	2.98
Sept. 27, 1936	2,080	82	31	2.64
Oct. 27, 1936	2,009	71	30	2.37
Nov. 27, 1936	1,950	59	31	1.90
Jan. 1, 1937	1,886	64	35	1.83
Feb. 1, 1937	1,874	12	31	.39
Mar. 1, 1937	1,864	10	31	.32

Texas Railroad Commission engineers are now making periodical bottom-hole surveys of the Texas side of the field.

North Rodessa

The fifth producer in the north extension zone of the Rodessa field is indicated as Standard Oil Co. of Louisiana began taking initial gauge on its No. 2 Armistead, section 4-23-16. The same company's No. 1 Armistead was completed during the week, flowing 246 bbls. in 12 hours; casing pressure 510 pounds, tubing pressure 105 pounds, total depth 6,025 feet.

Four locations were staked in this area just across the line in Arkansas.

Rodessa Travis Peak Tests

Perkins and Marr No. 5 Hunter, section 13-23-16, near the peak of the structure on the Louisiana side of the Rodessa field, is being deepened from the Young sand (from which the well has been producing), for a thorough exploration of the section to and including the Travis Peak. Drilling continues below 6,477 feet.

Another deep test is indicated in the Robert Potter Survey, generally referred to as the gas territory on the Cass County, Texas, side of the field, as United Gas No. 1 J. W. Land failed to find saturation in the Lower Glen Rose. Drilling was continued deeper, and a red bed section found at about 6,400 feet, below the black shale which normally underlies the Young sand. Operators plan to test the red bed section thoroughly, and may possibly carry the well deeper for a test of the Travis Peak beds.

Rodessa Completions

R. W. Norton No. 1 L. C. Harden NE section 20-23-16, flowed 76 bbls. in four hours on initial test, one-fourth inch tubing choke, total depth 5,980 feet.

Frank DeMayo No. 1 W. D. Chew, Robert Trammel Survey, flowed 148 bbls. daily, 15,915 to 1 gas-oil ratio, through one-fourth inch tubing choke, total depth 6,010 feet.

Magnolia Petroleum No. 8 Meda Green, J. Davenport Survey, flowed 600 bbls. in 24 hours, one-fourth inch tubing choke, total depth 6,007 feet.

Magnolia Petroleum No. 13 Meda Green, J. Davenport Survey, flowed 12 bbls. hourly through one-fourth inch tubing choke, total depth 6,056 feet.

Magnolia Petroleum No. 4 Lewis & Wicks, Cass County School Land Survey, flowed 12 bbls. hourly through one-fourth inch tubing choke, total depth 6,090 feet.

Magnolia Petroleum No. 7 Lewis & Wicks, Alex Archer Survey, flowed 648 bbls. in 24 hours through one-fourth inch tubing choke, total depth 6,021 feet.

Phillips Petroleum Co. No. 7 Farrier, William R. Myers Survey, flowed 376 bbls. in 24 hours through one-fourth inch tubing choke, total depth 6,070 feet.

Texas Co. No. 8 W. M. Hall, Alex. Archer Survey, flowed 568 bbls. in 24 hours through one-fourth inch tubing choke, total depth 6,079 feet.

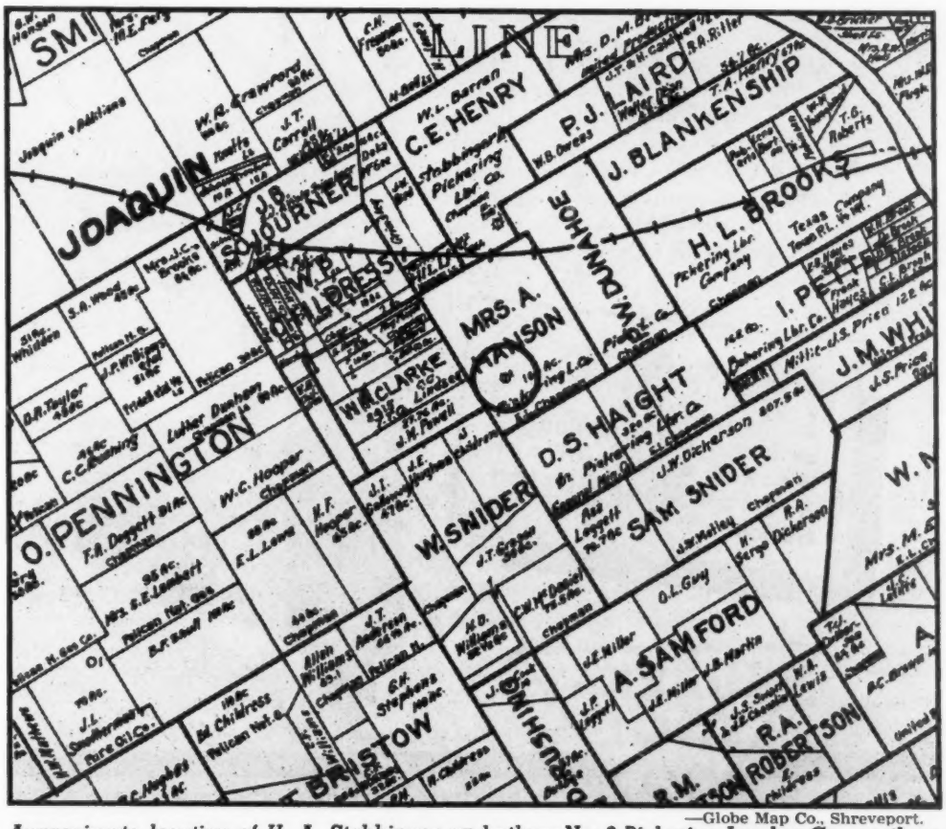
United Production Co. No. 2-A J. H. Bewley, H. Holbert Survey, flowed 12 bbls. hourly through one-fourth inch tubing choke, total depth 5,995 feet.

Vaughan Production Co. No. 2 Willis, S.F.I.W. Survey No. 1263, flowed 390 bbls. in 24 hours through one-fourth inch tubing choke, 580 pounds tubing pressure, 780 pounds casing pressure, total depth 5,968 feet.

Marion County

Arkansas-Louisiana No. 1 W. S. Ford, Charles Grayson Survey, near Lodi, continues to test all possible zones of saturation as indicated on Schlumberger tests. Last perforations have been from 6,095-6,109 feet near the gas saturated portion of the section. Operators plan to continue perforating up the hole in order to afford complete evaluation of the well's potentialities. Last gauge tested 61 bbls. in 12 hours through 1-inch tubing choke, 36.7 gravity oil, with an estimated 250,000 feet of gas.

Holcomb and Thomason-Flesh and Hootkins No. 1 Lizzie Henderson, discovery well at Jefferson, 7 miles southwest of Lodi, was perforated higher in the gas zone, packer set between the gas



—Globe Map Co., Shreveport.

Approximate location of H. A. Stebbinger and others No. 2 Pickering Lumber Co., northern part of Shelby County, Texas, which indicated possible new oil field after coring 20 feet of saturated oil and gas sand in Glen Rose. Location is about three-quarters mile south of same operator's No. 1 Pickering, completed several months ago from the top part of the same formation as gas and distillate producer

and oil horizons, and is now flowing well with the gas through various size chokes. On the last gauge the well was making about 15 bbls. hourly through two one-sixteenth inch chokes. Additional testing continues here. Texas Railroad Commission has issued a tender for the movement of 1,800 bbls of oil from this location, which was sold to Shell Petroleum Co. Oil has accumulated during testing operations.

At the Bauman, Dunn & Fisher No. 1 Chatten, between Jefferson and Lodi, operators are reported to have cored about 25 feet of gas and distillate saturation in the Hill and Gloyd formations. The hole is now being circulated while waiting for casing to be moved in.

Bienville Parish

Lide & Greer No. 1 Smelley, SE SW NE section 13-16-5, 5 miles south of Arcadia, continued to perforate and test throughout the saturated section last week. The 7-inch casing was perforated at 7,152-66 feet with 20 shots, and at 7,180-7,200 feet with 35 shots, and gauged 3,280,000 feet of gas. After having been acidized with 2,500 gallons, the same formation gauged 14,134,414 feet of gas. Total depth is 7,693 feet. The well is now standing for orders.

Bossier Parish

Triangle Drilling Co. No. 1-I Skallal, NE section 22-17-12, on the southwestern flank of the Sligo gas field, was added to the list of Sligo oil producers as it was completed flowing at the rate of 70 bbls. per day, with 9,000,000 feet of gas through one-half inch tubing choke, casing pressure 1,950 pounds, tubing pressure 1,500 pounds, total depth 5,170 feet.

Triangle Drilling Co. No. 1-H Skallal, SE SW SW section 23-17-12, flowed 200 bbls. on initial 24-hour test through one-fourth inch tubing choke, tubing pressure 100 pounds, casing pressure 600 pounds, from Pettit lime 5,144 to 5,180 feet, total depth.

Arkansas-Louisiana Gas Co. No. 1 R. Hardeman, SE section 6-17-11, in the Sligo gas producing area, gauged 26,717,800 feet, 1,850 pounds rock pressure, from total depth of 4,324 feet.

Estimated Daily Production

Estimated daily gross production all companies week ending March 26, 1937:

NORTH LOUISIANA

Bellevue	815
Caddo light	4,100
Caddo heavy	2,385
Converse	810
Cotton Valley heavy	340
Cotton Valley light	520
De Soto and Red River	1,380
Elm Grove	360
Haynesville	3,245
Holly	140
Homer	2,550
Lisbon	125
Pleasant Hill	135
Rodessa	49,020
Sarepta-Carterville	410
Sligo	390
Urania	2,860
Zwolle	730
Total	70,315

SOUTH ARKANSAS

Champagnolle	1,600
El Dorado	2,010
Lisbon	285
Miller County	555
Nevada	740
Smackover light	2,110
Smackover heavy	16,905
Stephens	560
Troy	1,515
Urbana	1,420
Total	27,700

Texas side of Rodessa field—43,375 bbls. daily.

Claiborne Parish

Ray P. Oden and others No. 1 W. H. Patton, SW SE SE section 36-21-5w, offsetting the discovery well in the new Lisbon field, came in last week flowing 34 bbls. hourly through seven-sixteenths inch tubing choke from the Basal Glen Rose total depth of 5,373 feet. On initial tests the Oden well appears to be a much larger producer than the discovery well, and is thought to be more indicative of the Lisbon field's potentialities.

Three quarters of a mile northwest of the discovery well, Lyons & Neely No. 1 H. E. Patton, NE NW SW section 36-21-5w, topped saturation at 5,274 feet and set casing preparatory to testing, after drilling about 15 feet of saturated sand. Total depth now is 5,292 feet.

P. W. Woodruff No. 1 H. E. Patton, center S half SW NE section 36-21-5w, logged saturation from 5,297-5,305 feet, and drilled to a total depth of 5,374 feet for a test of the section. The lower 15 or 20 feet drilled was white sand, carrying salt water. The hole will be plugged back, and casing set for a test of the oil-saturated horizon.

Two miles west of the discovery, Lisbon Oil Co. No. 1 Burgess, NE SE NE section 3-20-5w, is reported to have been dry in the Basal Glen Rose on drill stem test 5,287-5,340 feet, and the hole is now being deepened in search of saturation at deeper levels.

Rapides Parish

Encountering a small showing of gas at 3,665 feet, B. B. Webb and others No. 1 Brasher, section 22-4-2, a wildcat 8 miles west of Alexandria, was drilling ahead without testing. It is planned as a 6,000-foot test.

Sabine Parish

Producers Oil & Gas No. 4 Edwards Estate, SE NW SW section 29-9-13, pumped 100 bbls. daily on initial test, total depth 1,743 feet.

Ellis Production Co. No. 1 Small, SE NW SE section 24-7-11, was dry and abandoned, total depth 3,802 feet.

Kirk-Green-Way No. 1 Whitney Corp. (Deep Rock), section 8-9-13, Lower Glen Rose test, was drilling below 3,285 feet with some showings of gas. This test is near the center of the Converse

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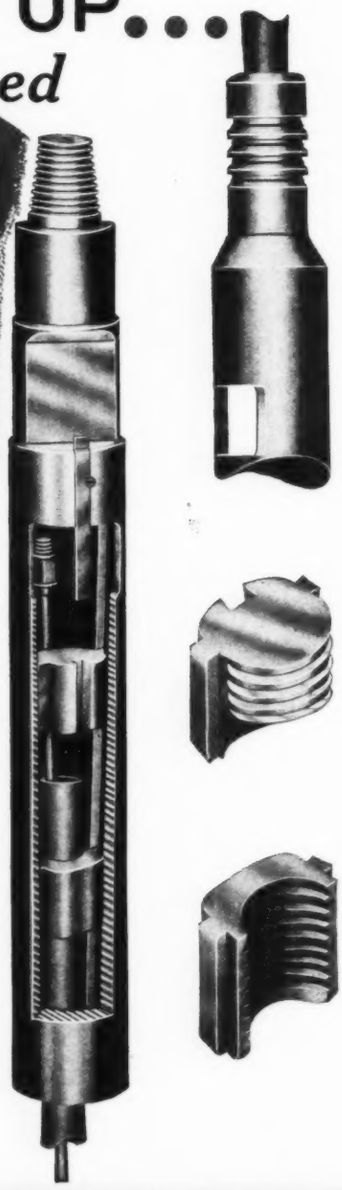

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shallow oil field, and offsets the junked Cox & Whitehurst hole which discovered a large amount of gas and some oil from the Trinity horizon last summer.

Seismograph surveys of two recently assembled blocks in southwest Sabine Parish, in the vicinity of Negreet, and on the south flank of the Sabine uplift, are now under way. Romaine and others are detailing their 8,000-acre block centering in Township 5, Range 12, where contract calls for beginning a 6,000-foot test by May 1. Northeast of Negreet, in Township 6, Range 12, Arkansas Fuel Oil Co. is mapping their large block assembled last year.

Webster Parish

Ohio Oil Co. No. 1 S. D. Coyle, NW SE SW section 23-21-10, logged Holloway sand at Cotton Valley at 5,544-66 feet and tested 12 bbls. of distillate per hour with 8,000,000 feet of gas through three-fourths inch tubing choke. The operators decided to carry the hole to the deeper pay horizons, and are drilling at about 6,000 feet.

United Gas No. 2 Davis, NW section 23-21-10, gauged 417 bbls. of distillate in 17½ hours, through three-eighths inch tubing choke, and on a one-hour test gauged 26 bbls. of 61.9 gravity distillate and 328,000 feet of gas, tubing pressure 3,085 pounds, casing pressure 3,175 pounds, total depth 8,551 feet.

Standard Oil Co. of Louisiana No. 1 Fudicker, section 2-17-9, about 1 mile southwest of the Sibley gas and distillate field, has casing perforated at 5,560-5,600 feet in the Sibley horizon, and were washing the well in as the week closed. Indications from cores and an electrical survey indicated a mile extension of the gas and distillate producing area at Sibley.

MISSISSIPPI

Lamar County

The second Lamar County wildcat of Sun Oil Co. and associates No. 1 K. Talley, SE SW section 28-4-15, Lamar County, Mississippi, topped the salt cap rock at about 2,000 feet, and has been abandoned at 2,015 feet, in salt. The rig is being moved 700 feet south for another test. The first well recently drilled here definitely located a salt dome, and the second well was drilled in search of production on its flank. The third well will have the same objective.

ARKANSAS

Hempstead County

Imperial Oil Products Co. No. 1 Foster Estate, section 35-12-26, Hempstead County, Arkansas, has been abandoned at 3,683 feet.

Nevada County

Benedum & Trees No. 2 C. C. Fincher, SW SW NE section 10-14-20, Nevada County, was added to producers in Troy field, pumping 30 bbls. per day from Nacatoch sand, total depth 1,260 feet.

C. B. & F. Oil Co. No. 1 W. Haynie, SW SW NE section 5-14-20, flank of the Troy field, found salt water in the Tokio sand, and was abandoned at 2,123 feet.

Alec Larson No. 1 Wortham, SW SW NW section 29-13-21, topped red beds at 2,167 feet, indicating it was entirely off structure, and was abandoned at depth of 2,340 feet.

Union County

Lion Oil Refining Co. No. 1 Morgan, section 18-18-17, near Shulter, Union County, spent most of last week fishing for broken drill stem after making very attractive drill stem tests, and indicating itself a pool opener. The "fish" has been recovered, and the operators are reaming hole preparatory to running casing.

Prior to encountering the fishing job the drill stem test at 5,544-59 feet showed a hole full of oil in 15 minutes, with 85 pounds pressure through one-fourth inch choke and five-eighths inch bottom choke, with an estimated 250,000 feet of gas and 41.2 gravity crude. Another drill stem test at 5,554-59 feet showed attractive oil saturation. The oil is thought to be in a sand member of the Upper Paleozoic. A relatively pure sand was cored at 5,537-46 feet, green shale and silt at 5,546-56 feet and sand at 5,556-59 feet. Total depth is now 5,559 feet. It is reported that Lion Oil Refining Co. is surveying line from this discovery to its El Dorado refinery.

EAST TEXAS (Border Counties)

Harrison County

Wildcat test in the Latex area indicated itself for an oil well last week from the Tokio sand after acidizing. Midfield Oil Co. No. 1 Lane and Greer, M. M. Baker Survey, logged the top of the Tokio at 2,326 feet; set 5-inch casing at 2,330 feet, and after drilling to a total depth of 2,336 feet, and acidizing, oil rose to 1,000 feet. A pumping unit was installed and during the last 24-hour test the well is reported to have made 10 bbls. of oil with 1,000,000 feet of gas. The well continues testing for a completion gauge. This test is one-fourth mile north of W. F. Bridewell's 6,000-foot Glen Rose test, abandoned last summer as a failure, but which indicated some oil from the Tokio, prompting the drilling of this discovery well.

Panola County

Magnolia Petroleum Co. has spudded its second Lower Glen Rose test in Panola County, No. 2 E. A. Hull in the Thomas Applewhite Survey, 4 miles northeast of Carthage, and 3,400 feet east of its No. 1 Hull, recently completed as a gas and distillate well at 5,960 feet to open a new producing area. No. 2 Hull will be carried to the Basal

(Continued on Page 90)

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Southwest Texas District

EXTENSIONS, NEW SHOWINGS AND NEW SANDS DISCOVERED

By
GEORGE WEBER

CORPUS CHRISTI, Tex., Mar. 29.—Four fields shared the attention of Southwest Texas operators during the past week. In the Balcones Fault zone, an Edwards lime producer is in the making. The same area is the scene of an indicated new field, and an interesting deep wildcat. Two new sands were discovered in Nueces County fields, and an Aransas County field was extended to the northeast.

The Fault Line zone, which has for many weeks shown a revival in drilling operations, figured in two important developments in the past few days. In the McCrory-Branyon area of Caldwell County the Lincoln Petroleum Co. No. 5-B Branyon is to be put on the pump after making oil and some sulfur water in the Edwards lime at 2,335½ feet. The discovery is an important one for the chalk producing area, indicating the beginning of an Edwards development. No. 5-B Branyon, located in the J. I. Miller Survey, cored the top of the Edwards lime at 2,335 feet and took in 6 inches before acidizing. The test then made 5 bbls. per hour of 33 gravity crude when swabbed in, and will be put on the pump.

The discovery is expected to lead to a wave of deeper drilling adding to the activity which followed the completion several weeks ago of a large producer in the Austin chalk. Caldwell County is not alone in revived interest along the Fault zone. The Guadalupe County area to the southwest is active with tests in the Darst Creek section and the Diamond Halff Oil Co. No. 1 Bibbs, located on the northwest edge of the field, is drilling below 3,560 feet on a deep Trinity test.

Frio County has two important tests, both being drilled by the Amerada Petroleum Corp. No. 8 Halff & Oppenheimer is drilling below 7,500 feet on a 10,000-foot contract, and No. 1 Harriman, a wildcat north of the Leona River is below 4,200 feet.

Showing in Chalk

Five miles southeast of Lockhart and 6 miles north of the Luling field, C. A. McDonald No. 1 Trammel, recently taken over by J. R. Brinkley, has a showing of oil in the chalk at 2,314 feet and will be acidized for a production test. It made 38 gravity oil, and if completed, will mark another new chalk field for the county.

Two of the smaller fields of Nueces County attracted attention in the Lower Gulf Coast during the week. In Agua Dulce, the United Production Co. No. 1 Harvey, located on a 162-acre tract, in the Garza Survey, cored oil sand at 7,382-95 feet, and a caprock at 7,396-98 feet which was underlain by salt water sand. The sand was believed to be in the Vicksburg horizon. The test is being cored ahead to 8,000 feet before making production tests in the sands cored.

To the southeast, the Clara Driscoll field also had indications of production in a new sand. The Wellington Oil Co. No. 14 Sevier recovered 60 feet of distillate and mud in a drill stem test at 5,425½-33 feet. The test made in the new deep sand showed a working pressure of 350 pounds and operators have set casing at 5,433 feet for a test of the new discovery. The regular sand production in the Clara Driscoll field is at 3,900 feet, with production also at 5,800 feet. In the same field the Texas Co. No. 1 Sevier was carried to a total depth of 5,437 feet before abandoning without shows.

McCampbell Extension

A short northeast extension to the McCampbell field of Aransas County drew attention to that sector early in the week. The Collins & Broughton No. 1 McCampbell, located in Lot 5, Block 37, of the subdivision cored the field sand at 6,546-58 feet. McCampbell is one of the busiest fields in the Lower Coastal area, with eight wells drilling. The Atlantic Refining Co. and Buckingham Oil Co., the latter firm the discoverer of the field, are the principal operators, but the extension will bring into proven production the leases of other companies. A setback was encountered in the Buckingham Oil Co. No. 2-B McCampbell, which missed the 6,500-foot sand, and is drilling below 7,100 feet in a deep test.

Aransas County's only wildcat, Barnsdall Oil Co. No. 2 Kate Edwards, is nearing critical depth. The test, offsets No. 1 which several weeks ago blew out and cratered from total depth of 7,996 feet. The second test is drilling below 6,300 feet.

Salt Water in Second Test

A disappointing development took place in the newly opened London field of Nueces County. Cosner and Cosner No. 1 Stockton, a diagonal southwest offset of discovery, and the second test in the field recovered salt water on a production test at 4,700 feet. The casing, set at total depth of 4,707 feet, was perforated at 4,699-4,702 feet and operators are making a squeeze job. The discovery well is producing at 4,720 feet.

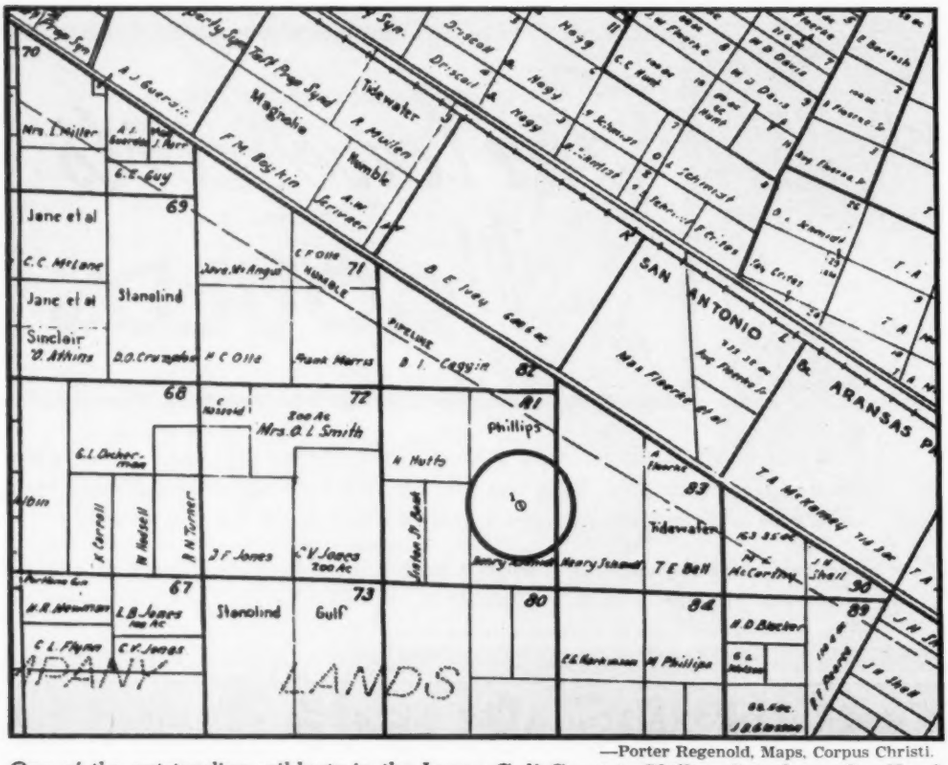
Another test, Gem Oil Co. No. 1 Stockton, located on a south offset position to the discovery, recovered salt water in an upper sand cored at 4,551-57½ feet and is drilling ahead to the 4,700-foot horizon. The discovery well showed a number of sand sections which indicated production on the Schlumberger log, the 4,700-foot producing sand being one of the smaller and upper ones. Crown Central Petroleum Corp. is also drilling in the field, in a west offset location.

To the southwest 1¾ miles, a second test is starting in the recently opened Chapman Ranch field. The Seaboard Oil Co. and Allen No. 3 Chapman, 1,320 feet east of No. 2 discovery well, is drilling below the surface casing. The Chapman Ranch pool is producing from a sand at 6,464 feet and is considered to be a separate structure from the London pool.

Flour Bluff Extended

Flour Bluff, the most important of the new fields in the Lower Gulf Coast, was extended slightly in several directions as four wells were brought in by the associated companies, Humble Oil & Refining Co., Barnsdall Oil Co. and Flour Bluff Corp. The field now has 34 oil wells, is not defined as yet in any direction, and is expected soon to be extended to the edge of Laguna Madre, where drill-

(Continued on Page 90)



—Porter Regenold, Maps, Corpus Christi.

One of the outstanding wildcats in the Lower Gulf Coast is Phillips Petroleum Co. No. 1 Schmidt. The test last week found sand with a showing of oil at 5,330-53 feet., but a drill stem test failed when the seat slipped. The wildcat is now drilling below 5,950 feet

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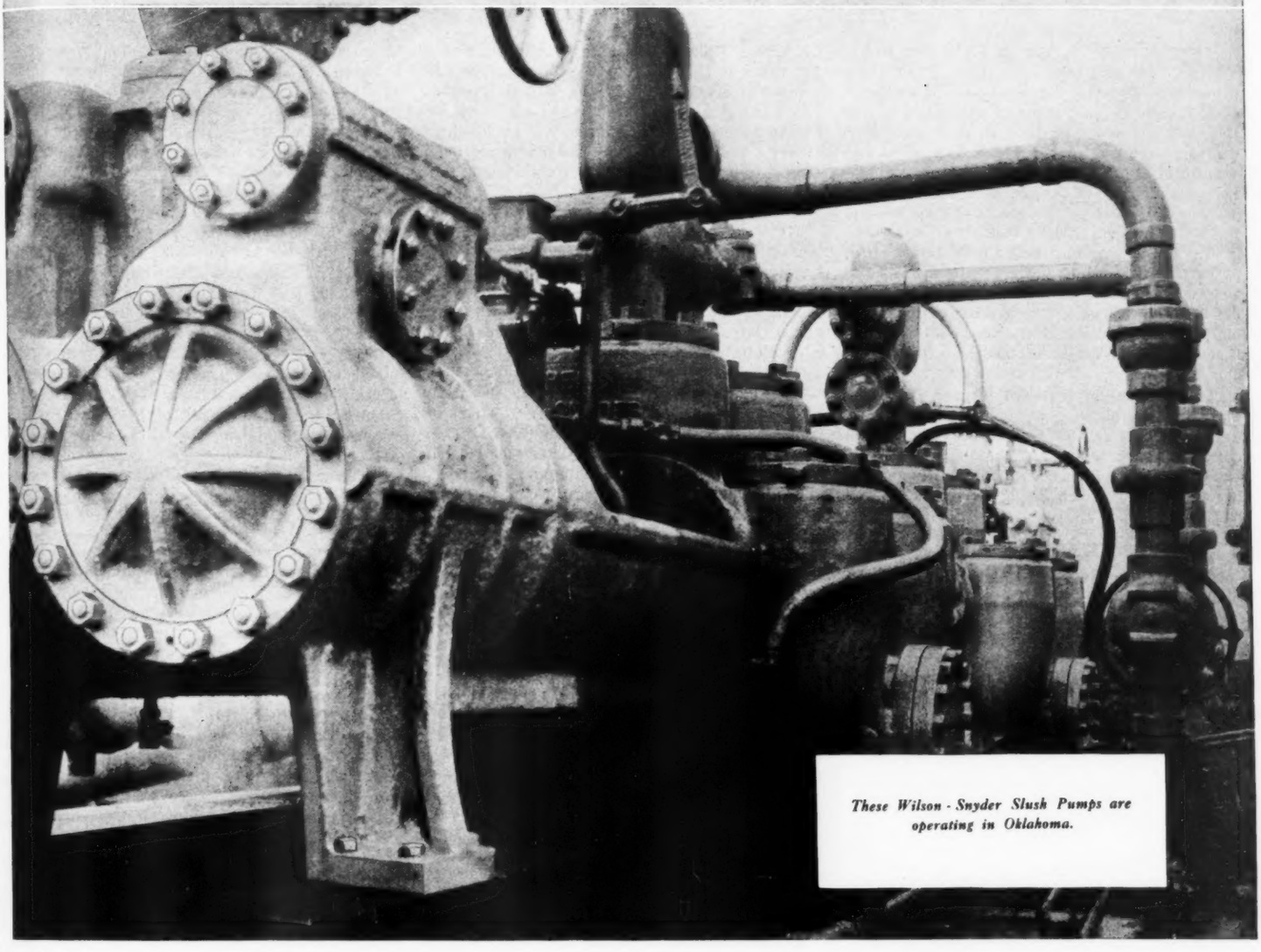

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Eastern Field Report

By STAFF CORRESPONDENT

DEEP GAS TEST IN FAYETTE NOT YET REACHED PAY SAND

PITTSBURGH, Pa., Mar. 29.—The deep test of William Snee and others on the Summit Hotel property on Chestnut Ridge in South Union Township, Fayette County, failed of completion during the week and is one of the most interesting tests drilled in the east. In the old hole, the gas pay was found at the bottom or 6,611 feet. In the new hole, an offshoot of the old hole and started at 4,250 feet, the first gas was struck at 6,608 feet and the increase in gas at 6,614 feet.

The gas volume in the new hole started off at 35,000 feet a day which has gradually increased to 105,000 feet a day or considerably less than in the old hole. The gauge on the gas coming from the old hole on the outside of the 7-inch casing which is shut off with a bradenhead, is about 408,000 feet a day.

The corrected well record to date places the top of the Corniferous lime at 6,575 feet and the top of the chert at 6,598 feet. At present the tools have reached 6,642 feet and drilling in dark lime and chert. No sand has been found up to this writing and drilling is continuing slowly due to the hard formation.

SOUTHEAST OHIO

Six operations were completed in Southeast Ohio during the week. The largest was in Hocking County, where the Preston Oil Co. completed No. 1,624 Sunday Creek Coal Co. lease in section 22, Ward Township. It was drilled in the Clinton sand, total depth 3,416 feet, and produced 40 bbls. the first day after shot.

In Harrison County, Frank Lyons completed a test on the Ross Patterson farm, section 10, Franklin Township, in Clinton sand at 5,600 feet. Two feet in this formation the gauge was 150,000 feet a day and after preparation it will be drilled deeper into the sand and shot.

In Medina County, Obermiller Brothers completed a well on the W. Szoke farm in section 8, Liverpool Township, in Clinton sand at 2,852 feet, good for 600,000 feet a day. On Lot 20 in Chatham Township, E. R. Edson & Son Co. No. 3 Ray and Cora Koons farm was dry in Berea grit, total depth 571 feet. It was abandoned.

In Muskingum County, H. B. Walker & Co. No. 2 J. W. Riley, section 5, Cass Township, drilled Clinton sand to 3,498 feet. It was a dry hole.

In Perry County, Wehrle and Daily Crude Oil Co. completed No. 5 Robert Deaver, section 2, Monroe Township, in Berea sand at 1,230 feet. It is a gas well gauging 200,000 feet a day.

SOUTHWEST PENNSYLVANIA

In Southwest Pennsylvania, Norwood Johnston and others test on the James McBurney farm in Mount Pleasant Township, Washington County, ran into gas below 6,100 feet that blew the tools up in the hole and then snapped the cable. The tools and cable are in the hole.

In Franklin Township, Butler County, the deep test of the Phillips Gas & Oil Co. and the American Natural Gas Co. on the Perry S. Davis farm, a mile south of Prospect, reached 5,361 feet and then was filled back to straighten a crooked hole.

In Beaver County, the deep test of the Laughner Oil & Gas Co. and the American Natural Gas Co. on the William Wilsman farm in Independence Township, is 125 feet in the Corniferous lime and drilling. In South Beaver Township, A. J. Wise, Jr., is drilling at 2,100 feet. A mile and a fifth east of the Oriskany gas well on the William Graham (Calvin) well, John T. Galey and others are spudding a deep test on the Minnie Weigle heirs farm.

Other Operations

Two gas wells were completed in Southwest Pennsylvania. In Dunkard Township, Greene County, the Carnegie Natural Gas Co. completed a test on the Ella B. Parker farm at a depth of 2,860 feet. The Bayard sand was at 2,780-2,843 feet, with about 37,300 feet of gas at 2,839 feet. It has been shot and will be cleaned out.

In Wayne Township, Greene County, Equitable Gas Co. deepened No. 1 Cole farm to 3,304 feet. Fifth sand was at 3,140 feet, with 23,520 feet of gas at 3,155-60 feet; the Bayard sand was at 3,266 feet, with 308,000 feet of gas at 3,267-69 feet, which when tubed gauged 142,400 feet a day.

In Richhill Township, Greene County, Burley Wright and others are drilling at 1,710 feet on the Joseph McCracken farm. In Aleppo Township, B. L. Frye is deepening on the Milton Martin farm after the Big Injun gas was exhausted. The present depth is 2,975 feet.

WEST VIRGINIA

In Murphy district, Ritchie County, West Virginia, South Penn Oil Co. completed No. 19 Haught Lambert in the Maxon sand, total depth 1,960 feet, and it is showing for 25 bbls. a day.

In Marshall County, Guy B. and A. C. Patterson completed No. 2 W. B. Patterson No. 1 in Liberty district in the Fourth sand, and it is good for 1½ bbls. per day. Sand was topped at 3,300 feet, with the oil at 3,306 feet.

In Pleasants County, Simon Axelrod and others deepened No. 1 H. Sunderman in Washington district in the Salt sand at 825 feet. It is showing for 1 bbl. a day.

Gas Wells

In Cabell County, the Toms Creek Gas Co. completed a test on the J. A. Morrison farm in McComas district as a gas well. The Big Lime was at 1,497-1,657 feet; Brown shale, 2,760-3,550 feet, with 168,000 feet of gas at 2,966-3,550 feet.

In Gilmer County, the Pittsburgh & West Virginia Gas Co. completed a gas well on the Aurora Flo Peters farm in Glenville district at 1,824 feet, gauging 46,000 feet a day. Big Injun at 1,690-1,786 feet, with gas at 1,696-1,700 feet.

In Harrison County, Delaware Gas Co., on the Anita Goff farm in Eagle district, completed a gas well in the Speechley sand, total depth 3,390 feet. The gauge is 300,000 feet a day.

In Lincoln County, Huntington Development & Gas Co. No. 279 Ulysses Bellamy farm, Laurel Hill district, was deepened. Brown shale was at 2,447-3,500 feet, with 69,000 feet of gas at 3,090-3,225 feet. Nine-Mile Gas Co. completed deepening the test on the Ella Adkins farm at 3,027 feet. The Brown shale was at 2,745-3,037 feet, with 94,000 feet of gas at 2,860-2,950 feet.

In Washington district, Lincoln County, United Fuel Gas Co. completed No. 4,674 Mohler Lumber Co. as a gas well gauging 336,000 feet a day. Gas in Berea was at 2,360-65 feet, and in Brown shale at 3,184-4,476 feet. In Sheridan district, W. C. Kingery and others completed a gasser on the J. W. Smith farm at 2,075 feet, gauging 125,600 feet a day. Berea, 2,056-74 feet, with the gas at 2,058-70 feet.

In Ritchie County, W. H. Mossor completed No. 2 Andrew Prather, Murphy district, in Injun sand at 1,966 feet as a gas well gauging 250,000 feet a day. In this district, Creed Barker completed No. 2 Henry L. Barker in Injun sand at 2,000 feet as a gas well gauging 200,000 feet a day. In Grant district, McCarty & Hoff completed a gasser on the Thomas and A. Dye farm at a depth of 2,320 feet, producing 37,300 feet of gas from the Maxon sand.

In Wetzel County, the Carnegie Natural Gas Co. completed a second test on the Clarence Blatt farm in Proctor district as a small gas well in Big Injun sand at a total depth of 2,478 feet. In this district, the Columbian Carbon Co. drilled a test on the Franklin Fitzsimmons farm through the Injun sand to 2,185 feet and it was dry. It may not be drilled deeper.

Oriskany Gas Field

Benedum & Trees completed a test on the John Slack heirs farm in Elk district at a depth of 4,935 feet, Oriskany sand. The gauge is only 150,000 feet a day from the sand which was topped at 4,896 feet. It is also showing a small amount of oil.

In Elk district, Kanawha County, the Columbian Carbon Co. reached the top of the Corniferous lime at 4,890 feet on the Ida Hughart farm, drilling at 3,530 feet on the J. C. Jordon farm, at 4,332 feet on the James R. Jones farm, at 3,357 feet on the Minia F. Stauffer farm, at 1,674 feet on the W. L. Burdette No. 2, at 200 feet on the John Summers, Jr., farm, rigged up on the R. L. Wolfe farm and building a rig on the Octavia Pauley farm.

In this district, the West Virginia Gas Corp. is down 4,580 feet on the E. E. Walker farm. United Fuel Gas Co. has reached 1,300 feet on the C. B. Graham farm, and 3,590 feet on the Mollie Shafer and others lease. Benedum & Trees are down 3,012 feet on the T. W. Walls and others lease. The Glenn Oil & Gas Co. has reached 2,725 feet on the Virginia Joint Stock & Land Bank No. 2.

In Poca district, Kanawha County, the Spartan Gas Co. has a location for No. 2 on the Avilee Baldwin farm. The elevation is 912.50 feet. G. W. Lepeire is drilling at 4,690 feet on the J. W. Legg farm. The Columbian Carbon Co. is drilling at 1,290 feet on the Mary Boggess farm and fishing for wire line at 4,348 feet in the test on the B. R. Reed farm. Godfrey L. Cabot, Inc., is building a road to the location south of Sissonville on the J. E. and M. D. Good farm. The Hays Oil & Gas Co. is down 1,840 feet on the E. C. Humphreys farm. The United Carbon Co. has started drilling the test on the J. A. Moss and others lease.

In Malden district, the United Fuel Gas Co. topped the Corniferous lime at 4,892 feet in No. 4,679 on the Georges Creek Land & Mining Co. The South Penn Oil Co. is drilling No. 4 on the Kate Scott farm.

In Hancock County, John T. Galey has reached 3,250 feet in a wildcat scheduled for the Oriskany sand on the Rachael Talbott farm in Grant district.

PALACIOS POOL IS ASSURED; OIL AT SOUTH COTTON LAKE

By
F. L. SINGLETON

HOUSTON, Tex., Mar. 29.—Glenn H. McCarthy No. 1 Foley, north of Palacios in Matagorda County, assured the Gulf Coast of another field as it was cleaning into the pit under high pressure showing oil and gas, with no estimate on the amount of fluid the well was making. Bottomed in the Frio sand at 8,585 feet, the well was tested after perforating the casing in a 30-foot sand section at 8,570-85 feet. It is flowing through a quarter-inch choke, and has a working pressure of 2,600 pounds on the tubing and 1,500 pounds on the casing. Gravity of the oil tested 42 degrees.

The well is in the Suzan Perkins Survey, in an area which is divided into many ownerships. McCarthy is reported to have acquired approximately 4,200 acres in the area. Other acreage is held by Sun Oil Co., Atlantic Refining Co., George Strake and Stanolind Oil & Gas Co.

While the above well was being completed, interest along the Gulf Coast shifted to the Ganada area in Jackson County, where a wildcat is reported to have cored oil sand. The well is being drilled by the Texas Co. on the T. N. Mauritz lease, and is bottomed in soft sand at 5,094 feet. Four feet of sand showing oil is reported to have been cored and the operators were preparing to make a drill stem test. It is on a solid block of 5,000 acres centering in the Morris and Cummings Survey and, if productive, will open another shoreline field comparable to the Pickett Ridge field in Wharton County.

Discovery in Cotton Lake Area

Salt Dome Oil Co.'s third test in the south Cotton Lake area, Chambers County, has apparently opened the first production for that area which has two distillate producers. No. 1-C Lawrence is north of the two distillate wells and on the first-hour gauge flowed 44 bbls. of oil through a quarter-inch choke, with tubing pressure 975 pounds. During the next three hours it began to sand up, and is now shut in while the tubing is being cleaned out. It is bottomed in the Frio sand at 6,503 feet, with 7-inch casing cemented at 6,498 feet. This area is in the S. Barrow Survey about 2½ miles south of the Cotton Lake field in which production has been developed from the Marginulina Frio contact at 6,300 feet.

In the Seabreeze field, Chambers County, Sun Oil Co. No. 1-B White, midway between No. 1 Acom and No. 2 White, is having trouble with heaving shale and will probably be abandoned. Bottomed in sand showing gas and salt water at 9,637 feet, the hole began to heave and after the drill stem had been pulled, it began to flow gas and salt water. Same company's No. 1-A White originally drilled to 9,055 feet has been completed for a distillate well at a plugged back depth of 8,343 feet, and is flowing through an eighth-inch choke with tubing pressure 3,050 pounds and casing pressure 2,800 pounds.

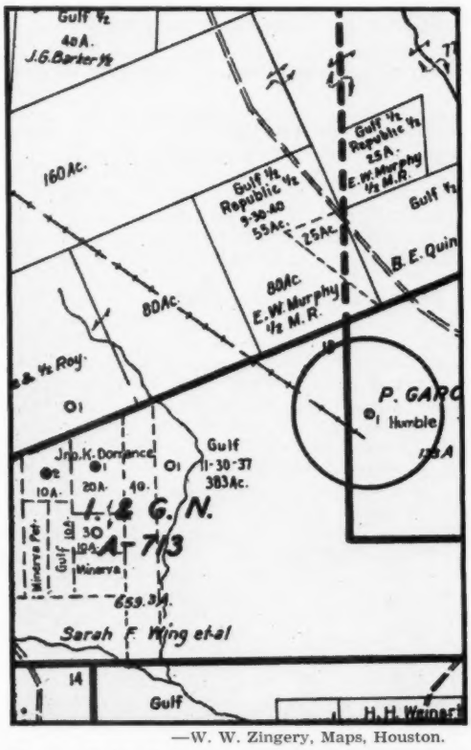
In the Segno Field

Humble Oil & Refining Co. No. 1 Kirby Lumber Co., half a mile east of production in the Segno field, Polk County, is bottomed in the Upper Cockfield at 5,202 feet at which point an electrical coring test was being made. The Cockfield was topped at 5,122 feet, or about 7 feet lower than the two producing wells which practically assures an important extension for this new field that was discovered at the close of last year. On a potential gauge, J. K. Dorrance No. 2 Wing flowed 408 bbls. of pipe line oil per day through a quarter-inch choke, with tubing pressure 1,550 pounds and casing pressure 1,800 pounds. Location has been made by the Rajo Oil Corp. for No. 1 Sarah Wing in the center of a 11.43-acre tract in the I.&G.N. Survey No. 15.

Heyser Field

Much interest is centered on the Heyser field, Calhoun County as a result of the showing made by George Echols No. 3 Bennett, located about a mile north of the field in the J. E. Galban Survey. Seven-inch casing is being cemented on bottom at 7,475 feet after three possible sands were cored. Oil sand was cored from 5,413-14 feet, gas sand with distillate odor at 5,465-67 feet, and oil sand at 5,467-71 feet, which is approximately the same level from which the Heyser field is producing.

Two and one-half miles south of the Hardin field, Liberty County, Jack Frazier and others are moving in material for No. 1 B. F. Haoachy, on a 95-acre tract in the Hugh B. Johnson Survey. Bottom-hole money was furnished by the Humble Oil & Refining Co., Gulf Oil Corp., L. W. Wicks, Arkansas Fuel Oil Co., Atlantic Refining Co. and the Pan American Production Co.



—W. W. Zingery, Maps, Houston.

Segno field, Polk County, showing location of drilling and producing wells. Humble Oil & Refining Co. No. 1 Kirby Lumber Co. an east extension is indicated by circle

Shell Petroleum Corp. No. 1 Ramsey, approximately 1,700 feet east of production at the Lockridge field, Brazoria County, has been plugged back from 6,390 feet to 6,371 feet, and is scheduled to be completed this week. On a drill stem test at 6,346-6,390 feet, it showed 3,200 feet of pipe line oil with 100 feet of salt water which practically established the water level for that part of the field. The well is assured of making a producer, as a drill stem test at 6,365-70 feet showed 2,000 feet of pipe line oil. Gulf Oil Corp. No. 1 Baker, an offset to No. 2 Wilkes and Smith, flowed 5 bbls. of oil per hour at a total depth of 6,358 feet, but due to the high gas-oil ratio it is being killed, and the hole will be deepened.

Dickinson Field

Four wells were scheduled to be completed at the Dickinson field, Galveston County. Offsetting Diadem Oil Co. No. 1 Way in the Diadem area, northwest part of the field, Pure Oil Co. No. 1 Sealy Hutchings, in the P. G. Merrett Survey, is bottomed at 8,111 feet, with 5½-inch casing cemented at that point, and the well will be tested through perforated casing. Same company's No. 1-B J. W. Shelor in the G. W. Brooks Survey is standing with 5½-inch casing cemented at 8,108 feet. In the J. Sellers Survey, Humble Oil & Refining Co. No. 1-V Bayou Development Co. is at a total depth of 8,039 feet with 7-inch casing cemented at 8,026 feet, and in the south extension area, same company's No. 16-A Maco Stewart topped sand at 8,820 feet, and is running casing after coring to a total depth of 8,850 feet.

Stanolind Oil & Gas Co. No. 1 D. A. Oates, 4,150 feet south of the discovery well of the Clinton field, Harris County, is coring in sand and shale below 8,367 feet, and although it has shown considerable gas pressure after topping a sand at 8,063 feet, oil showings are now reported. The same company's No. 1 Candelari, completed November 5 for a distillate well under a working pressure of 4,000 pounds, has stopped flowing, and has been shut in, with tubing pressure 50 pounds. This well was completed through a drill stem at 8,101 feet, after it tried to blow out, consequently very little is known about the sand. Some are of the opinion that the well produced through a cavity from a depth of around 10,000 feet.

In the same county, but on the Bammel Prospect, preparations were being made to test Hamil and others (George Lawrence) No. 1 Zappa, J. Farwell Survey. Five and one-half inch casing has been cemented at 6,620 feet and the casing will be perforated to test a sand recorded on an electrical coring test at 6,412-28 feet. On the Aldine Prospect, Texas Gulf Production Co. No. 1 Gillespie and Garnsey, Simon Contreras Survey, was drilled to 8,084 feet, and 7-inch casing is being cemented for a production test. On several drill stem tests the well showed production possibilities. On the old Hockley Salt dome, Stanolind Oil & Gas Co. No. 1 Warren Mineral is shut down awaiting orders at 6,685 feet, after a 10-minute drill stem test at 6,456-85 feet showed no pressure, and 14

thribbles of drilling mud. The test was made following the running of an electrical coring test which showed fair porosity in lime and shale, with the top at 6,450 feet.

One Completion in Amelia Area

One completion was recorded for the Amelia field, Jefferson County, and several other tests had reached the sand. Humble Oil & Refining Co. No. 1 Lefler, topped sand at 6,760 feet, and was completed through perforated casing at 6,775-78 feet for an initial production of 684 bbls. per day through a quarter-inch choke. No. 1 Industrial Investment Co. No. 1 J. E. LaGrange topped sand at 6,760 feet and 5½-inch casing was cemented on bottom at 6,780 feet. The Marginulina was topped at 6,083 feet, and the Frio at 6,302 feet. No. 4 Tyrell-Combest is fishing for screen after perforating the casing at 6,774-78 feet. The Marginulina was topped at 6,128 feet and the Frio at 6,371 feet. In the West Beaumont area, Glen H. McCarthy is building derrick for No. 4 Longe in the H. Williams Survey.

Due south and on the Cheek Prospect, Humble Oil & Refining Co. No. 1 Jefferson Land Co. perforated casing at 7,761-89 feet, and after swabbing to 2,500 feet began to show salt water. The perforations have been cemented off and it is now waiting for cement to set. It is in the C. Hillbrandt Survey.

Northwest of Rosenberg, Fort Bend County, Research Inc. spudded No. 1 J. M. Moore, in the S. Kennedy Survey.

Louisiana Fields

Along the Louisiana Gulf Coast, attention was centered on the Big Lake field in Cameron Parish where Union Sulphur Co. No. 1 J. O. Hebert has apparently found an oil sand which is expected to give this field its first oil producer. The hole is bottomed at 6,815 feet and is reported to have discovered 19 feet of sand. Preparations were being made to run an electrical coring test and if the results are favorable a production test will be made. No. 1 Hebert is the fifth test drilled. The discovery well was completed as a distillate well at a plugged back depth of 7,968 feet and three wells were completed as dry holes. This is the first test to be drilled by the Union Sulphur Co., which recently took over the development from Magnolia Petroleum Co. on an agreement to drill three wells for a half interest in the block, which originally consisted of 15,000 acres.

The producing limits of the west flank of the old Jennings field, Acadia Parish, was further extended by the showing of A. G. Glassell and others No. 1 Trushell, which is bottomed in sand showing oil at 6,867 feet. The sand was topped at 6,735 feet, and according to an electrical coring test, the well has 45 feet of sand. It is in the southeast quarter of section 42-9s-2w, several hundred feet west of production recently opened by the Superior Oil Producing Co.

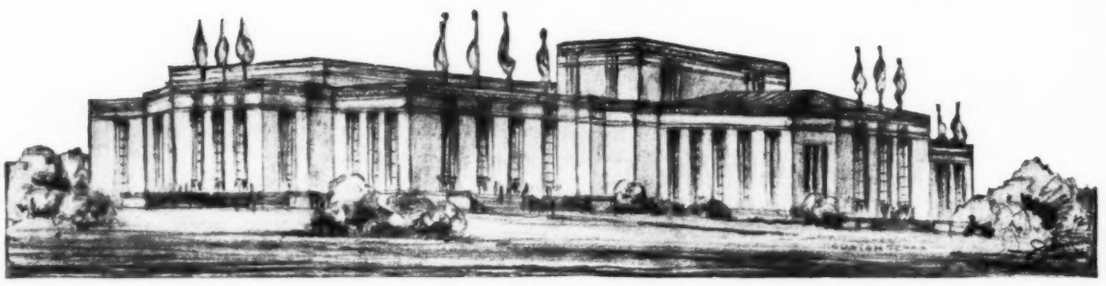
A new producing sand for the new Valentine field, Lafourche Parish, has been discovered by Pan American Production Co. No. 3 Harang. Sand showing oil was cored at 7,115-19 feet and 7,169-73 feet. It is 660 feet southwest of the discovery well which is producing from sand at 6,977-90 feet.

Texas Co. added its twelfth deep producer to the Lafitte field in Jefferson Parish by the completion of No. 6 Rigolettes, which flowed 1,392 bbls. per day through a three-eighths inch choke with tubing pressure 1,300 pounds. Total depth is 9,476 feet, with 7-inch casing cemented at 9,440 feet. The well is 1,935 feet east of No. 4 in section 29-17s-24e. Same company's No. 6 Lafitte in section 20, is drilling in shale and lime at 9,256 feet.

On the south Crowley Prospect, Acadia Parish, Humble Oil & Refining Co. No. 1 Nordyke in section 23-10s-1e is coring in sand and shale after coring sand and shale with a gas odor at intervals from 9,223 to 9,324 feet. On the north flank of the Houma gas field, Terrebonne Parish, same company's No. 1 H. J. Ellender in section 23-19s-19e cored sand with a slight showing of oil at 10,515-30 feet, and is coring ahead below 10,804 feet, after an electrical coring test showed nothing of importance.

Outline Oil-World Exposition Program

To provide coverage of every branch of the petroleum industry at the Oil-World Exposition, to be held in Houston, Tex., October 11 to 16, inclusive, a complete program was outlined at a meeting of the board of directors. The program committee consists of R. L. Dudley, chairman; E. G. Lenzner, assistant chairman; George A. Hill, Jr., president, Houston Oil Co.; Chase Sutton, Pure Oil Co. and Frank Carothers, Norvell-Wilder Supply Co. Subcommittees to take charge of specific activities follow:



The new building in which the Oil-World Exposition will be held

Refinery Committee: W. H. Curtin, president, W. H. Curtin & Co., chairman; O. E. Berg, Babcock & Wilcox Tube Co.; M. N. Dannenbaum, M. N. Dannenbaum Co.; R. L. Mallory, Brown Instrument Co.; W. J. Peddie, Maintenance Engineering Corp.; and George Reid, Refiner magazine. A subdivision will be a technical instrument school sponsored by Rice Institute, University of Texas and A. & M. College, similar to the meter school of the University of Oklahoma and representatives of manufacturers of meters and instruments will give practical demonstrations. The refinery committee will be aided by engineers of oil companies, refineries and gasoline plants.

Directional Drilling Committee: G. B. Corless, Humble Oil & Refining Co., chairman; Alexander Anderson, Alexander Anderson, Inc.; H. John Eastman, Eastman Oil Well Survey Co.; R. S. Hyer, Sperry-Sun Well Surveying Co.; A. B. Patterson, Texas Co.; M. L. Cashion, Gulf Production Co.; and D. B. Collins, Shell Petroleum Corp. This committee will present new developments in directional drilling and surveying.

Drilling Committee: Joe Russell, Gulf Production Co., chairman. Individual members are being selected to handle specific phases of drilling technique.

Production Committee: B. M. Nowery, United Gas Public Service Co., chairman. Production methods will be treated by speakers on particular subjects during the technical sessions.

Associations and Conventions Committee: Chase Sutton, Pure Oil Co., chairman; William V. Vietti, American Institute of Mining and Metallurgical Engineers; Carl Hickman, American Petroleum Institute; Phil F. Martyn, Houston Geological Society; W. B. Preston, American Society of Mechanical Engineers; A. T. McDannald, Drilling Contractors Meeting; C. E. Buchner, Independent Petroleum Association; James Anderson, Humble Oil & Refining Co.; and George A. Hill, Jr., Houston Oil Co.

Safety and First Aid Committee: J. J. Delahide, E. D. Bullard Co., chairman; George J. Gruber, Mine Safety Appliances Co.; R. B. Roaper, Humble Oil & Refining Co.; Claude Liles, Magnolia Petroleum Corp.; Pete Keegan, Shell Petroleum Corp.; Tom Brown, Gulf Production Co.; Jerry Lockwood, Empire Oil & Refining Co.; Cecil Hightower, United Gas Public Service Co.; and C. A. Miller, Texas Co.

New Patents and Inventions Committee: Lester B. Clark, chairman. Space will be furnished inventors to show new patents and one evening will be assigned for talks and demonstrations.

Attendance Committee: George A. Hill, Jr., Houston Oil Co., and W. L. Childs, Reed Roller Bit Co., chairmen; T. J. Donoghue, Texas Co.; A. M. McCorkle, Stanolind Oil & Gas Co.; A. T. McDannald, Smith & McDannald; C. B. Moore, Frick-Reid Supply Corp.; B. M. Nowery, United Gas Public Service Co.; George O'Leary, Houston Oil Field Material Co.; C. R. Patterson, National Supply Co.; M. W. Phelps, Oil Well Supply Co.; Joe Russell, Gulf Production Co.; T. E. Swigart, Shell Petroleum Corp.; and F. H. Thrailkill, Continental Supply Co. A subcommittee will take charge of foreign attendance.

Entertainment Committee: Frank Carothers, Norvell-Wilder Supply Co., chairman; Robert J. Miller, Robert J. Miller Co.; George O'Leary, Houston Oil Field Material Co., and S. T. Childress, Rio Bravo Oil Co. The Wildcat Committee will give a banquet with special features.

Oil Equipment Export Committee: Under the chairmanship of Thomas E. Ward, president, Oilfield Equipment Co., Inc., and the following committee, several meetings will be held of value to foreign visitors and manufacturing companies serving foreign fields: P. A. Bogdanoff, Amtorg Trading Corp., New York; J. W. Casterton, Standard Oil Co. of N. J., New York; J. A. de Lanoy, Asiatic Petroleum Corp., New York; P. W. Fenton, Tide Water Oil Co., New York; W. G. Foster, Anglo-American Purchasing Co., New York; W. J. Malloy, Oil Well Engineering Co., New York; H. B. Malone, Consolidated Oil Corp., New York; E. B. Middlekauf, Texas Co., New York; J. S. Parks, Atlantic Refining Co., Philadelphia, Pa.; F. J. Petura, Henry L. Doherty & Co., New York; H. Slater, Venezuela Gulf Oil Corp., New York; J. R. Taylor, Socony-Vacuum Corp., New York; O. P. Wegner, Argentine Government Oil Fields, New York; J. A. Whitely, Pan American Petroleum & Transport Co., New York; George W. Young, Standard Vacuum Oil Co., New York; Clyde Ellwood, Fluid Packed Pump Co.; Jack Mellon, Byron Jackson Co.; W. F. Huff, Bettis Rubber Co.; Robert J. Eiche, Los Angeles, and Bert R. Emerick, P & D Specialty Co.

E. G. Lenzner, general manager, will serve as assistant chairman on all committees.

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Among Gulf Coast Drilling Contractors

Glenn H. McCarthy has completed his third discovery well, No. 1 Foley, north of the town of Palacios in Matagorda County. Although no gauge is available, the well is showing 42-gravity oil as it flows into the pit through a quarter-inch choke and is showing 2,600 pounds on the tubing and 1,500 pounds on the casing. The hole is bottomed in the Frio sand at 8,585 feet and production was obtained by perforating the casing at 8,570-85 feet.

During the past two years McCarthy has opened the Cotton Lake field in Chambers County, the West Beaumont field in Jefferson County and proved up a considerable extension in the Anahuac field shortly after it was discovered in 1935. Due to the division of ownership around his discovery at Palacios, an active drilling campaign may result should the well make a prolific producer. Companies owning protection acreage are Atlantic Refining Co., Sun Oil Co., George Strake, Texas Co. and several independent operators. While McCarthy was completing this well he was rigging up another test in the West Beaumont field, No. 4 Longe, located near No. 3, recently completed for the best producer in the field.

Prospects of a drilling boom taking place in the Segno field in Polk County seemed assured as a result of the showing of Humble Oil & Refining Co. No. 1 Kirby Lumber Co., located half a mile east of production in the P. Garcia Survey. Bottomed at 5,202 feet, an electrical coring device was being run to determine the top of the sand. According to geological markers, the well is running normal with the discovery well assuring a nice producer. Production is obtained from the Upper Cockfield section, which was reached by the Humble test within 24 days. With the exception of a few small tracts owned by independent operators, the majority of the field is controlled by the Gulf Oil Corp., Humble Oil & Refining Co. and Kirby Petroleum Co.

Smith & McDannald have reached the sand on two wells at the Dickinson field in Galveston County and production tests are scheduled to be made during the week. In the northwest extension area, referred to by many as the Diadem area, Pure Oil Co. No. 1 Sealy Hutchins is bottomed at 8,111 feet and is being tested through perforated casing. No. 4 J. W. Shelor is at a total depth of 8,108 feet with 5½-inch casing cemented on bottom.

O. W. Dyer has one rig operating in the northwest extension area of the Dickinson field for the Atlantic Refining Co. and has reached the pay for the same company on two wells in the McCampbell field in Aransas County.

For the first time in several weeks new locations along the Gulf Coast showed a decline the past week as only 15 were reported. These included two in the Anahuac field by Humble Oil & Refining, one at Greens Lake by Sun Oil Co., one at Amelia by Glenn H. McCarthy, one in Hardin County

(Continued on Page 88)

Set up of Glenn H. McCarthy's rig located north of the town of Palacios, Matagorda County, which opened a new Gulf Coast field from a depth of 8,585 feet

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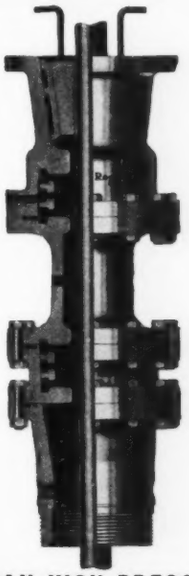

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West and North Texas

By
L. E. BREDBERG

PECOS COUNTY TESTS SHOW OIL; EXTEND KEYSTONE POOL

FORT WORTH, Tex., Mar. 29.—Two widely separated tests in Pecos County gave indications of opening pools in the past week, but enough progress had not been made on either of them to definitely settle the question. One of the tests is to be acidized and the other is delayed by a fishing job.

E. R. Minshall and others No. 1 Banker, in section 25, Block 146, T.&St.L. Survey, about 2½ miles northwest of Fort Stockton, in western Pecos County, drew attention to the area surrounding when it started filling with oil after a shot with 90 quarts of nitroglycerin at a plugged-back depth of 2,974 feet. It made considerable gas as the tools were being jarred upon after they were stuck in the hole by the gas following the shot. It had been drilled to 3,005 feet, but was plugged back to shut off water. The oil is coming from a lime, believed to be in the Yates section, and as the well now stands it looks as if it would make a small pumper, opening up another pool for Pecos County.

The other potential discovery is A. H. Flaherty & Son's test on the J. C. and D. H. Cunningham lands, in section 25, Block 11, H.&G.N. Survey, about 6 miles southeast of Girvin in Pecos County. The operators ran tubing preparatory to acidizing lime logged at 2,244-49 feet, where 37 gravity oil was bailed at the rate of 1 bbl. per hour, the first oil showing at 2,235 feet. The well is about 2½ miles northwest of Rowan & Tong No. 1 J. A. McDonald, which in August, 1929, flowed for a short time from lime at 1,605 feet, and then quit. The new test is about 8 miles north and a little west of the Taylor-Link field.

Loving County Activity

During the week four tracts of land, each consisting of 160 acres, were sold to the Woodley Petroleum Co., which is to start developments immediately. The first test to be drilled will be in section 21, Block 55, Township 1, T.&P. Survey, about one-half mile southeast of the Mason discovery in section 20. Other tests are to be drilled by the company in sections 19, 29 and 15, all in the same block and survey, according to the purchasing contract. Woodley paid a reported price of $320,000 to the Texas & Pacific Land Trust, $100,000 of which was cash and the remainder out of one-sixth of the oil produced.

Another test for the area is to be drilled by D. J. Finley and A. W. Cherry, both of Midland, in the SE quarter of section 24, Block 56, Township 1, T.&P. Survey, about 2 miles west of the Mason discovery, and will either extend or limit the field in that direction.

Since the Mason Oil Co. discovery on the Kyle ranch, a couple of months ago, this area, including acreage extending over the line into New Mexico, has increased in value and considerable leasing has been done. The Mason discovery is producing high gravity "sweet" oil from the Delaware sand, the same formation in which production is found in the Wheat field, about 14 miles southeast. The company is completing a 4-inch pipe line from its tanks at the well to a point on the Santa Fe Railroad and Paso-Tex pipe line about 10 miles to the southeast, and if the pipe line company does not make a connection a loading rack will probably be erected on the railroad and the oil moved out by way of tankcars.

Another Coke Wildcat

H. E. Ogden and G. A. Simons, the latter from Muskogee, Okla., are staking location for a wildcat on the E. C. Rawlings ranch, 4 miles north of Bronte in Coke County. It is to go to 3,500 feet. Location is in section 391, Block 1-A, H.&T.C. Survey, about 1 mile southeast of a test in section 390, abandoned at a total depth of 3,500 feet. That test encountered showings of oil at 3,266-3,320 feet.

The Ross Oil Co. of Coahoma, Tex., has contract whereby it is to clean out and acidize two old wells drilled in the northeastern part of the county several years ago by the Ohio Oil Co. (then Mid-Kansas Oil & Gas Co.). No. 1 Lackey in section 272, Block 1-A, H.&T.C. Survey, showed 2,300 feet of oil at 3,755-83 feet, but was later abandoned as dry. The second test drilled in the area by the company, No. 1 C. J. Henry, three-quarters of a mile to the west, in section 271, showed some oil at 3,945-47 feet in lime.

Another Ordovician Failure

The Ordovician test of Moore Brothers on the Barnsley ranch, in section 43, Block 43, P.S.L. Survey, Crane County, has been given up as a failure at a total depth of 6,829 feet, still in the Simpson, Middle Ordovician, which was topped at 6,268 feet. It is about 8½ miles southeast of the Gulf Oil Corp.'s Ordovician producer on the Waddell ranch in the Tubbs or Sand Hills area.

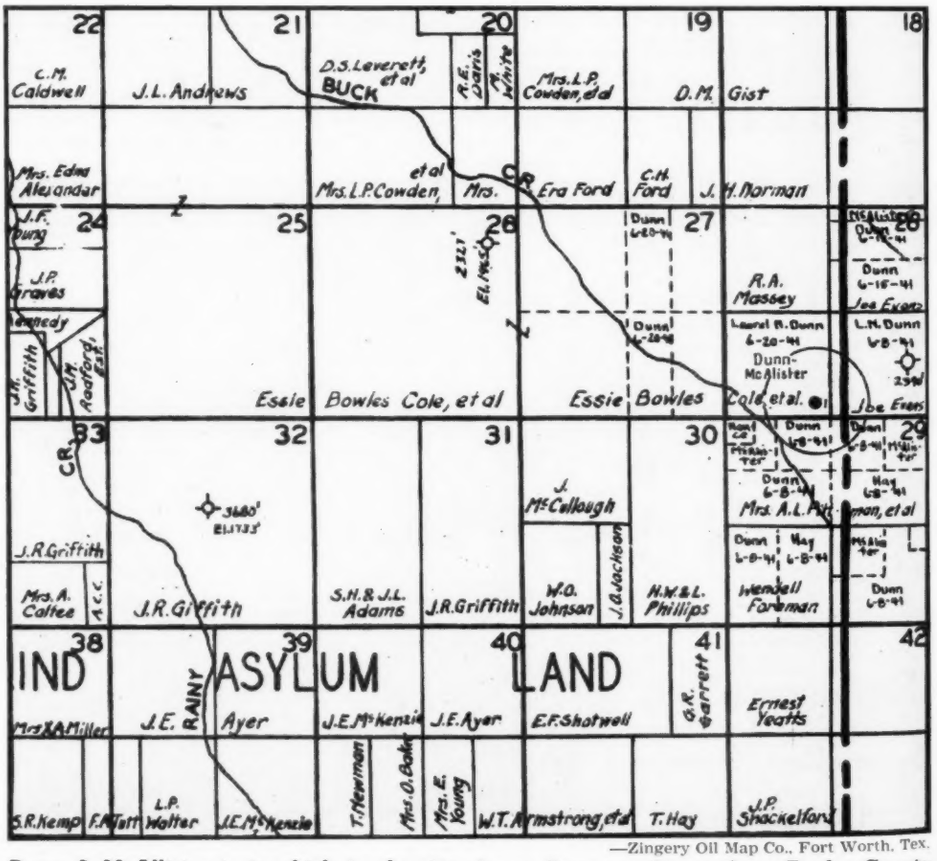
Odessa Outpost

The town of Odessa in Ector County may soon see production at its back door. York & Harper and Sloan & Zook have staked location in the NW cor. of section 21, Block 42, Township 2s, T.&P. Survey, on the northwest outskirts of the city and 2 miles east of the Foster field and about 1¼ miles southeast of a recent eastern extension to that field. If it proves a producer another town lot drilling campaign will be launched, although the cost of drilling these lime wells will no doubt prevent drilling one or more wells on a single lot as has been done in some other fields in the state.

Jones County

One mile south of the Martin-Spurrier discovery well in eastern Jones County, A. P. Kouri and others have staked location for No. 1 J. D. Winkle in the J. M. Polk Survey No. 1, Abstract 495. Two other wildcats in the county were abandoned.

The Lueders Development Co. No. 1 S. L. Underwood, in the S. L. Underwood Survey No. 1, 2 miles south of Lueders, appears to be a small producer



—Zingery Oil Map Co., Fort Worth, Tex.

Dunn & McAllister test, which is showing for a discovery for northern Taylor County, about 5½ miles east of the northern part of Abilene, the county seat

from the lime and is to be given an acid treatment in an effort to make a commercial producer. It showed from 5 to 10 bbls. per day in the Hope lime logged at 1,790-93 feet. Total depth is 1,802 feet.

Outpost Wells

J. R. Sharp No. 1 Empire-Walton, located in section 19, Block 77, P.S.L. Survey, three-quarters of a mile northwest of production in the Keystone field, Winkler County, extends that field. It flowed 85 bbls. of oil per day while cleaning out, following a 200-quart shot. Total depth is 3,414 feet.

The wildcat test of Clark, Cooper and Smith on the A. P. Jordan lands, in section 12, Block B-22, P.S.L. Survey, about 4 miles west of the Waddell field in northern Crane County, and approximately the same distance south of the Penn field in Ector County, gave its owners but little encouragement when it pumped only 50 bbls. of oil in 12 hours, pumping off. It had been shot once and acidized twice. Total depth is 3,750 feet. However, this production is sufficient to lead to the belief that the Waddell field may be developed up to this well, which may prove a west edge well.

Misses Means Pay

Humble Oil & Refining Co. No. 1-B Means, about 2½ miles south of the nearest production in the Means field, in Andrews County, apparently missed the Means pay and appears as a dry hole and a defining test on the south of the field. It is now down 4,922 feet, showing no oil or gas. The crew is reaming the hole.

CENTRAL AND NORTH TEXAS

The recently discovered Ivy field in western Shackelford County was given a setback on the north side; added a producing well, an offset to the discovery well on the northwest, and was in doubt as to a third test. Ungren & Frazier completed a producer in section 158, B.B.B.&C. Survey, but the Iron Mountain Oil Co. failed in its No. 1 D. A. Ivy, north of the discovery well. It was given up at 1,990 feet. Danciger Oil & Refining Co. No. 1 McGowan, west offset to the discovery, in the same section, drilled to 1,940 feet and plugged back to perforate and acidize around 1,750 feet.

This is a new sandy lime field in which the discovery well, Owen and Snebold's No. 1 D. A. Ivy, rated around 100 bbls. per hour when completed about two months ago, after acidizing. The acid treatment more than doubled its potential capacity and caused fast lease and royalty trading around the well.

Bryson Outpost

S. Atwell of Dallas is to drill a test one-half mile west of the town of Bryson, Jack County. Location is on the McCloud farm in the Isaac Hughson Survey. If it makes a producer it will connect the north and south fields west of the town and open more territory to production and development. Three tests are now drilling in the townsite of Bryson and others are slated to move in on lot locations.

Wildcat Abandonment

J. Brown and Mullens-Weils, Inc., No. 1 G. D. Taylor, in the Linthicum Survey, on the edge of Lake Dallas, southeastern Denton County, has been abandoned as dry at 2,514 feet.

Young County Wildcats

Three miles west of Graham in Young County, Pitzer & West, who have been active in developing leases and in wildcatting in this county for several years, have staked location for No. 1 F. Wray, in section 3411, T.E.&L. Survey. It will be a 4,000-foot test.

D. P. Kenyon and associates made a location on the J. W. Daws lands, in section 752, T.E.&L. Survey, 6 miles southwest of Proffitt, in Young County, for an 1,800-foot test. It is near a test drilled some time ago, which had good showings of oil, but was given up at 1,002 feet.

H. J. Cox and others have made location for a 4,285-foot test on the Leon McCluskey farm, in the J. T. Mullenaux Survey, in the southern part of Young County, and is moving in a heavy rig which may be used in carrying the hole to 5,000 feet, or deeper. This location is near an old well completed by the Transcontinental Oil Co. which made a heavy producer at 4,016 feet.

Collin County

Foster Jones made a location for a 5,000-foot test on the Andrews Sherley lands, in the G. Morrison Survey, just east of the town of Anna in northern Collin County.

Deep Wilbarger Test

The Humble Oil & Refining Co. No. 22-H W. T. Waggoner, in section 46, H.&T.C. Survey, a northeast offset to the Phillips Petroleum Co.'s recent deep discovery, a good high-gravity oil well in lime at 3,076 feet, is shut down after cementing pipe. It topped the lime pay at 3,054 feet and will be drilled in this week.

Panhandle District

The Phillips Petroleum Co. abandoned the deepest test ever drilled in the Panhandle district, its No. 1 G. W. Porter, in section 35, Block 8-A, H.& G.N. Survey, in Wheeler County. Total depth is 7,142 feet. Two showings of oil were logged, one at 3,768 feet and the other 4,836 feet.

WEST TEXAS COMPLETIONS

Ector County

Devonian Oil Co. No. 1-A C. Scharbauer, 4,170-4,230 feet, acidized, 2,000 bbls.; No. 2-B C. Scharbauer, 4,165-4,230 feet, acidized, 3,880 bbls. Gulf Oil Corp. No. 12 Goldsmith, 4,175-4,204 feet, acidized, 2,380 bbls. Honolulu and others No. 1-A E. F.

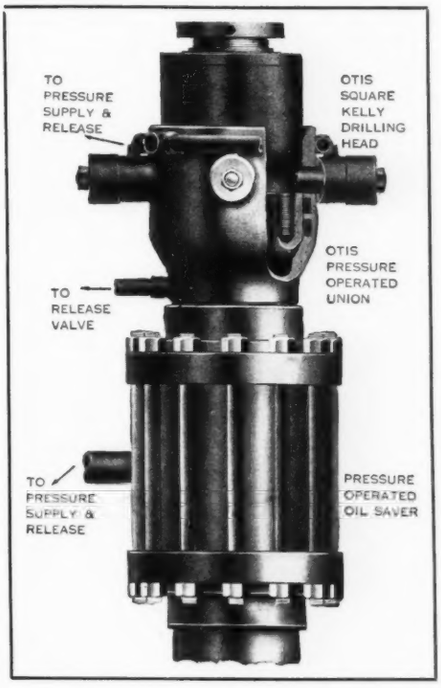
(Continued on Page 86)

NOT A Warning - BUT A Reminder

TO OPERATORS IN THE FOLLOWING FIELDS:

- ✓ CORPUS CHRISTI
- ✓ RODESSA
- ✓ WEST TEXAS
- ✓ HOBBS
- ✓ OKLAHOMA

The Otis Square Kelly Drilling Head, along with the Otis Pressure Operated Union, gives you not one, but two very profitable applications. This assembly not only serves for drilling in under pressure control, but for use as a Square Kelly Blow-out Preventer. Advantages of drilling in under pressure control are many—Reduced drilling time; no mud intrusion of the producing horizons; more accurate knowledge of formations being drilled, and far greater safety are only a few. This modern, thoroughly proven, assembly therefore fills the bill for you whether you are combating extremely high pressures, or (perhaps in the same field) your pressure has declined to a point where it is not advisable to use a heavy mud column and endanger your pay sand. In numerous cases this Otis assembly is coping with one, or both, of the above applications equally well in the same field.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Oklahoma Operations

By
DAL DALRYMPLE

WELL SOUTH OF FAULT LINE IN FITTS SECTOR FINDS PAY

The gusher strike at Langston in Logan County shared interest of Oklahoma oil men with the Fitts district of Pontotoc County, where production was discovered south of the fault line. The two most northerly wells in the Fitts field made large potentials, six new Fitts producers were completed the past week and several new tests started, and operators in the area petitioned the Corporation Commission for an increase in minimum daily allowable for Hunton lime producers.

Possibilities of commercial production south of the fault line across the south side of the Fitts field were seen at the E. H. Moore and others No. 1 Muse, SW NE SE section 33-2n-7. When water intruded at 5,252 feet, it was plugged back to Viola lime at 4,570 feet and acidized. It was reported to have flowed 452 bbls. of oil the first hour and 166 bbls. the second hour after treatment.

E. H. Moore No. 2 McCarty, NE SW NE section 22-2-7, one of the two farthest north wells at Fitts, was completed with a potential of 4,737 bbls. of oil. The same operator's No. 3 McCarty, NW SW NE section 22-2-7, the other northern outpost, obtained potential rating of 4,621 bbls., but had not been officially completed.

The Corporation Commission has set hearing for April 9 on the petition of operators asking an increase in daily minimum allowable of Hunton lime wells at Fitts from 75 to 100 bbls. daily. The petitioner, E. H. Moore, Inc., asserts a higher allowable is needed to permit pay-out on the $50,000 investment in drilling of the wells.

Hearing on a petition filed by major operators in the north end of the Oklahoma City field has been set for April 6. The petitioners are Phillips Petroleum Co., Barnsdall Oil Co., British American Oil Producing Co., Sunray Oil Co. and Turman Oil Co. The hearing will be held to determine whether the 18 per cent allowable production fixed for the Wilcox sand zone is not too high. The zone was allowed 132,000 bbls. daily for April, and the petitioners believe the percentage is too high.

Work has started at Clyde Becker and others No. 1 Pharris, SE SE NW section 24-6-12w, wildcat in southwestern Caddo County. A deep wildcat in Stephens County was abandoned, and work was progressing at several other deep southern Oklahoma tests.

Pontotoc County

Six producers were completed in the Fitts field, Pontotoc County. E. H. Moore No. 2 McCarty, NE SW NE section 22-2n-7, had Hunton lime at 3,800 feet; total depth, 3,830 feet; flowed 515 bbls. of oil through Hydril in two hours and made potential of 4,737 bbls. Same operator's No. 6-A Harper, SE NW NE section 29-2n-7, topped Hunton lime at 3,458 feet; Sylvan shale, 3,750 feet; total depth, 3,765 feet. It was acidized and flowed 237 bbls. of oil in three hours on gas lift. Potential rating was 256 bbls. of oil.

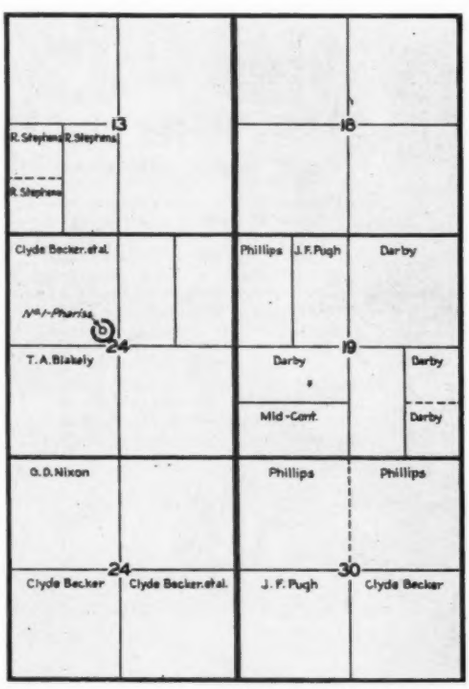
Skelly Oil Co. No. 9 Metropolitan Life, NE SE SW section 23-2-7, had Hunton lime at 3,549 feet; Sylvan shale, 3,941 feet; total depth, 3,945 feet. It flowed 528 bbls. of oil in two hours through casing; acidized, flowed 317 bbls. net in two hours through tubing, and made potential of 4,510 bbls.

Carter Oil Co. No. 12 Smith, NE NE SW section 28-2-7, was bottomed at 3,470 feet; shot and flowed 78 bbls. of oil in 12 hours. It was acidized and made potential of 347 bbls. Top of Hunton lime was 3,219 feet; Sylvan shale, 3,464 feet. Magnolia Petroleum Co. No. 17 Simpson, SW SE NE section 29-2-7, topped Hunton lime at 3,303 feet; Sylvan shale, 3,584 feet; total depth, 3,586 feet; acidized and made potential of 2,777 bbls. of oil. Same company's No. 11 D. Harden, NE NW NE section 30-2-7, made potential of 996 bbls. of oil after acid treatment. Top of Hunton lime was 3,585 feet; Sylvan shale, 3,882 feet; total depth, 3,885 feet.

W. A. Delaney and others No. 2 Russell, SW NE SW section 7-4-8, topped Wapanucka at 2,500 feet and was dry and abandoned at 2,585 feet, total depth. Caloma Oil Corp. No. 1 Brentz, SE NE SW section 4-1n-6, wildcat, was temporarily abandoned at 503 feet, total depth.

New Tests Started

New work in Pontotoc County: Sinclair Prairie Oil Co. No. 1 Vivian, SE SW NW section 22-2n-7, location; E. H. Moore No. 1 Frazier, NE SW NW section 23-2n-7, location; Bishop Oil Co. No. 2-A Simpson, SE NW NW section 28-2-7, cellar and pits; Magnolia Petroleum Co. No. 13 D. Harden, NE NE NW section 30-2-7, location; Loual Drilling Co. and others No. 1 A. J. Harden, NE NW NW section 30-2-7, location; Southern Oil Co. No. 1 Young, NE NE SE section 17-3n-7, wildcat, location; Blackwell Oil & Gas Co. No. 1 Mount, SW SW NW section 13-4-6, location; Mary F. Oil Co. No. 1-A Fernado, C W half NW SW section 13-5-8, drilling at 500 feet; O. H. P. Thomas, C S half NW NW section 28-5-8, drilling at 450 feet.



—Mid-Continent Map Co., Tulsa.

Clyde Becker and associates have started work at No. 1 Pharris, section 24-6-12w, wildcat in Caddo County

Continental Oil Co. No. 1-A Helm, NW SW SE section 2-1n-7, Jesse area, topped Bromide at 4,438 feet and was bottomed at 4,564 feet. It flowed 54 bbls. of oil in 24 hours by heads; was acidized and flowed 78 bbls. of oil net in seven hours.

E. H. Moore and others No. 7 Smith B, SW NE NE section 36-2n-6, was bottomed at 3,699 feet and after treating with 5,000 gallons of acid flowed 270 bbls. of oil gross in two hours. It was reacidized with 10,000 gallons and flowed 165 bbls. of oil gross in one hour. Sinclair Prairie Oil Co. No. 18 Woolley A, NW SW SW section 22-2n-7, was acidized with 12,000 gallons at 3,586 feet, total depth, and flowed 617 bbls. of oil net in one hour. Magnolia Petroleum Co. No. 5 Smith, NE SE NW section 28-2n-7, was bottomed at 3,550 feet; acidized with 10,000 gallons and flowed 535 bbls. of oil gross in one hour. Several Fitts wells were acidized and waiting on results.

Estimated Daily Production

Estimated daily average production of Oklahoma for the week ending March 27, and for the preceding week, was as follows:

	Barrels	
	Mar. 27	Mar. 20
Allen	6,525	6,500
Burbank	7,600	7,600
South Burbank	16,125	16,100
Balance Osage	21,750	21,500
Blackwell district	5,150	4,925
Bristow-Slick	7,975	8,000
Chandler	3,500	3,550
Crescent	15,625	18,175
Cromwell	3,225	3,275
Cushing-Shamrock	10,200	10,250
Duncan district	3,750	3,800
Edmond	26,450	36,125
Fish	6,925	6,825
Fitts	89,700	92,075
Graham	4,800	4,750
Gray	1,375	1,400
Healdton	9,650	9,600
Hewitt	4,375	4,350
Holdenville	925	900
Keokuk	9,625	8,100
Lucien	13,500	13,750
Marshall-Lovell	850	800
Oklahoma City	150,800	155,250
Olympic	14,925	15,425
Papoose	850	950
Polo	1,700	1,725
Sasakwa and townsite	3,025	2,925
Sholem-Alechem	3,250	3,275
Seminole:		
Bowlegs	11,925	11,900
Carr City	5,900	5,700
Earlsboro	6,625	6,050
South Earlsboro	725	700
East Earlsboro	7,850	7,800
Little River	11,000	11,150
East Little River	1,175	1,200
Maud	850	825
Mission	2,325	2,200
Seminole	9,775	9,875
East Seminole	3,600	3,625
Searight	4,625	4,850
Total Seminole	66,375	65,875
St. Louis-Pearson	23,250	22,125
Tatums	4,750	4,275
Tonkawa-Garber-Thomas	10,600	10,500
Wewoka	3,550	3,650
Yale-Jennings	4,150	4,125
Other pools	83,700	85,000
Total Oklahoma	640,525	657,450

Okfuskee County

Six producers and two failures were completed in the Okfuskee County sector of the Olympic field. W. A. Delaney and others No. 2 Lewis, SW SE SE section 7-10-9, had Senora sand at 1,863 feet; total depth, 1,898 feet; shot and pumped 50 bbls. of oil and 15 bbls. of water in 24 hours. Ark Royalty Co. No. 7 Fisher, SW NW SE section 18-10-9,

swabbed 216 bbls. of oil in 24 hours after a shot from Senora sand at 1,858 feet; total depth, 1,904 feet.

Chapman & McFarlin No. 4 Yarbrough, SE SE NE section 18-10-9, topped Senora sand at 1,893 feet; total depth, 1,939 feet; shot and pumped 105 bbls. of oil in 24 hours. Sinclair Prairie Oil Co. No. 2 Schultz, SW NE NW section 18-10-9, swabbed 30 bbls. of oil in 24 hours and later swabbed 107 bbls. in 24 hours after shooting. Top of Senora sand was 1,867 feet; total depth, 1,886 feet.

Sinclair Prairie Oil Co. No. 4 Palmer, SW NE NW section 19-10-9, had Senora sand at 1,860 feet; was bottomed at 1,929 feet; water intruded and it was plugged back to 1,924 feet. After shooting, it swabbed 10 bbls. of oil and 60 bbls. of water in 24 hours. Chapman & McFarlin No. 6 Williams, SE NW NW section 30-10-9, had Senora sand at 1,745 feet; total depth, 1,788 feet; shot and flowed 363 bbls. of oil through tubing in 24 hours.

Kemrow Drilling Co. and others No. 1-A Simon, SE SE NW section 25-10-8, topped Senora sand at 1,834 feet; water intruded at 1,855 feet, total depth; it was plugged back to 1,847 feet, damaged casing in shooting, water intruded and it was dry and abandoned. Blackwell Oil & Gas Co. and Phillips Petroleum Co. No. 1 Lehmer A, SE SW SE section 7-10-9, had Senora sand at 1,862 feet; was bottomed at 1,938 feet, with 600 feet of water in the hole, and was dry and abandoned.

Eight New Operations

First reports of new work in Okfuskee County follow: Chapman & McFarlin No. 1 Dunn, SE NW NW section 18-10-9, cellar and pits; same operators' No. 2 Dunn, NE NW NW section 18-10-9, location; Blackwell Oil & Gas Co. and Phillips Petroleum Co. No. 2 Lehmer B, SE SW NW section 18-10-9, rigging up rotary; Ark Royalty Co. No. 10 Fisher, NW SW SE section 18-10-9, rig; same company's No. 3 Brooks, NW NE SW section 18-10-9, cellar and pits; same company's No. 4 Brooks, SW NE SW section 18-10-9, location; Helmerich & Payne and others No. 1 Lasley B, NE NW SW section 25-10-10, an old well, running tubing; Helmerich & Payne and Amerada Petroleum Co. No. 1 Brooks, SE SE NE section 26-10-10, an old well, rigging up to deepen.

Manahan Oil Co. No. 1 Dolin, SE NE NE section 24-10-8, topped Senora sand at 1,882 feet; total depth, 1,892 feet; shot and was cleaning out. Blackwell Oil & Gas Co. and Phillips Petroleum Co. No. 3 Lehmer, NW SW NW section 17-10-9, was being put on the pump after swabbing 72 bbls. of oil in 10 hours at 1,924 feet, total depth. Same operators No. 1 Lehmer B, NE SW NW section 18-10-9, swabbed 131 bbls. of oil and 8 bbls. of water in 10 hours at 1,897 feet, total depth, and was being put on the pump. J. J. Deaner No. 4 Schultz, SW SE NW section 18-10-9, flowed 40 bbls. of oil and 50 bbls. of water in 24 hours at 1,903 feet, total depth. Oklahoma Oil Corp. No. 3 Ott, NE NW NW section 19-10-9, swabbed 16 bbls. of oil and 10 bbls. of water after a shot; total depth, 1,902½ feet.

Seminole County

J. E. Hall and others No. 2 Harjo, NE SE NW section 36-10-7, extended production in the North Bethel pool to the southeast. In topped Cromwell sand at 3,635 feet and was bottomed at 3,643 feet. It flowed 220 bbls. of oil through tubing in 24 hours, and was completed temporarily as a minimum well with daily allowable of 75 bbls. J. E. Crosbie and others No. 1 Harjo, NE NW NE section 35-10-7, three locations east of North Bethel production, topped Cromwell sand at 3,689 feet; had a hole full of water at 3,712 feet; topped Mayes at 4,110 feet; Woodford, 4,275 feet; Hunton, 4,300 feet; slight showing of oil at 4,333-90 feet; Sylvan shale, 4,407 feet; Viola lime, 4,502 feet; Dense, 4,545 feet; sandy Dolomite, 4,567 feet; Wilcox sand, 4,570 feet; cored sand with salt water showing at 4,572-74 feet, total depth, and was dry and abandoned.

Lynch and others No. 1 Hyde, SW SW NE section 24-5-5, topped Hunton lime at 2,376 feet; Sylvan shale, 2,559 feet; total depth, 2,695 feet; was shot and acidized; flowed 800 bbls. of oil in 24 hours, gross, and later flowed 624 bbls. in 24 hours, net.

Vierson Oil & Gas Co. No. 1-A Long, NE NW SE section 32-8-8, Wewoka area, topped Hunton lime at 3,913 feet; Sylvan shale, 4,020 feet, total depth; acidized and pumped 75 bbls. of oil net in 24 hours.

Ross Oil & Gas Co. No. 2 Davis, SE SW NW section 16-9-7, East Seminole area, flowed 70 bbls. of oil in 24 hours from Cromwell sand at 3,443 feet; total depth, 3,458 feet.

Old Well Deepened

Pure Oil Co. No. 14 Strothers A, NW SW SW section 26-9-6, an old well, was deepened from 4,021 feet to second Wilcox sand at 4,061 feet; total depth, 4,116 feet, and pumped 40 bbls. of oil in 24 hours, recompleted.

R. M. Purcell No. 1 Gilliland, SE SE SW section 24-11-7, wildcat, was an abandoned location.

New activity in Seminole County reported for the first time was as follows: Sunray Oil Co. No. 3 Cully B, SW SW NE section 18-5-8, an old well to be deepened, rig; H. F. Potts No. 1 Jefferson, NE cor. section 31-7-6, rigging up rotary; Devonian Oil Co. No. 1 Whitefield, NE NE NW section 27-7-7, location; Sinclair Prairie Oil Co. No. 2 Jones, NE SE SE section 9-8-6, an old well, plugged back, shot and cleaning out; J. W. Michaelson No. 1 Butler, NE SW SE NW section 30-8-8, an old well, cleaning out; Phillips Petroleum Co. No. 4 Jones, SE SW SE section 26-9-6, an old well, plugged back and shot, with gas estimated at 4,000,000 feet and flowing salt water; Rogers Oil & Gas Co. and others No. 1 Coody, SW SE SW section 9-9-7, cellar and pits.

B. F. Green and others No. 4 Spillman, NE SW SW section 7-6-8, Sasakwa area, was drilling at 2,852 feet with 150 feet of oil in the hole. Sinclair Prairie Oil Co. No. 3 Patton, NE SW NE section 18-6-8, swabbed 5 bbls. of oil in four hours at 2,813 feet, total depth. E. W. Jones No. 1 Coker, NW NW SW section 1-8-5, was bottomed at 4,164 feet, acidized with 5,000 gallons and swabbed 400 bbls. of oil net in 24 hours from Hunton lime topped at 4,010 feet; it was reacidized with 10,000 gallons and waiting on results. Sinclair Prairie Oil Co. No. 4 Hassman, SE NE NE section 3-8-5, total depth 4,134 feet, swabbed 40 bbls. of oil in 21 hours; was acidized with 2,000 gallons and waiting on results.

Hughes County

In the Hughes County sector of the Olympic field, Ohio Oil Co. No. 1 Harjo, SE SE NE section 2-9-8, had Senora sand at 1,733 feet; total depth, 1,774 feet; plugged back and was completed at 1,740 feet. It swabbed 7 bbls. of oil and 48 bbls. of water in 24 hours. It is on the northwest side of the Hughes County sector of the field.

Marbett Oil Co. No. 1-A Hanning, NW NW SE section 1-7-8, Holdenville area, topped Booch sand at 2,818-40 feet; total depth, 2,842 feet; was shot and pumped 24 bbls. of oil and 2 bbls. of water in 24 hours.

Midwestern Production Co. No. 1 Hill, C SE NW section 13-9-9, had Gilcrease sand at 2,875 feet; total depth, 2,942 feet; produced 8,000,000 feet of gas and was completed.

Winona-Jarvis-Holmes No. 2 Harjo, SE SE NW section 20-7-8, had dug cellar and pits. Rogers & Rogers No. 1 German, NE NW NE section 14-9-8, was rigging up rotary.

Oklahoma County

Four wells were completed in the Oklahoma City field and one in the Edmond area, Oklahoma County. British American Oil Producing Co. No. 1 Parkway, NW SW NE section 27-12-3w, topped second Wilcox sand at 6,380 feet; was bottomed at 6,519 feet; flowed at the rate of 25 bbls. of oil an hour; installed Reda pump and made 24-hour potential of 7,070 bbls. on pump and gas lift.

Clark & Co. No. 1 Barcliff, SW NW NW section 23-12-3w, had second Wilcox sand at 6,410 feet; total depth, 6,494 feet; and made potential of 672 bbls. of oil. Southwestern Drilling Co. No. 1 Mee, NW NE NE section 34-12-3w, made potential of 676 bbls. of oil on gas lift from second Wilcox sand at 6,287 feet; total depth, 6,425 feet. Champlin Refining Co. No. 1 Cato, SE NE NE section 35-12-3w, had lower Simpson pay at 6,125 feet; total depth, 6,540 feet; was shot and flowed 65 bbls. of oil in 24 hours.

In the Edmond field, Continental Oil Co. No. 15 Young, SW NW NW section 31-14-3w, topped second Wilcox sand at 6,660 feet; total depth, 6,686 feet; was shot and flowed 896 bbls. of oil in four hours, making potential of 5,374 bbls. Gas gauged 15,125,000 feet.

Sunray Oil Co. and Phillips Petroleum Co. No. 14 State, NW SW NE section 27-12-3w, was a rig.

Osage County

A pair of producers were completed in the Naval Reserve field, Osage County. Lewis Production Co. and Peters Petroleum Corp. No. 2 Osage, SW cor. section 27-24-7, had Bartlesville sand at 2,545-2,630 feet, total depth; was shot and flowed 834 bbls. of oil in 24 hours. Lewis Production Co. No. 13 Osage, NW SE NE section 28-24-7, swabbed and flowed 75 bbls. of oil a day after shooting. Bartlesville sand was topped at 2,608 feet; total depth, 2,706 feet.

A. E. Purser and others No. 8 Osage, SW NE SE section 5-22-11, was dry and abandoned at 1,190 feet, total depth. Bay Oil Co. and others No. 3 Osage, SE NW SW section 25-22-7, was dry and abandoned at 2,941 feet, total depth.

Harland Oil Co. No. 81 Osage, NE SW NW section 25-24-11, had Bartlesville sand at 1,595-1,735 feet, total depth, and was completed as a repressure well. Wolverine Oil Co. and others No. 44 North Avant Unit, SW SW NW section 32-24-12, was completed as a repressure well at 1,747 feet, total depth.

New work in Osage County: L. E. Mertz No. 7 Osage, SE cor. section 8-21-9, location; Grimes & Gillespie No. 14 Osage, NW SW SE section 31-21-12, an old well, preparing to deepen; Hane & Clemishire No. 2 Osage, SE SE NE section 33-23-12, location; Lewis Production Co. and Texas Co. No. 8 Osage, NW SE SE section 17-24-7, spudded; Bay Oil Corp. No. 1 Osage, NW cor. section 35-24-7, wildcat, location; W. C. Norris, Inc., No. 7 Osage, SW NE SE section 24-25-8, location; Barnsdall Oil Co. No. 6 Osage, SE NE NE section 35-25-11, location.

Logan County

Carter Oil Co. and Gulf Oil Corp. No. 5 Walker, SE NW NE section 33-17-4w, Crescent field, Logan County, topped second Wilcox sand at 6,127 feet; was bottomed at 6,285 feet; was shot and flowed 1,545 bbls. of oil in four hours, making potential of 7,635 bbls. Gas measured 17,577,000 feet.

Two new operations were reported in the Langston area, eastern Logan County. Ohio Oil Co. No. 1 W. D. Knight, SE NE SW section 12-17-1w, northeast of the new Langston gusher that extended the Langston pool one-half mile east, had dug celler and pits and had rig on the ground. Amerada Petroleum Corp. and others No. 2 Fouts, SE NE NE section 14-17-1w, west offset to the new producer, was a location. Helmerich & Payne and others No. 1 Randall, SW SW NW section 24-16-1w, wildcat near Meridian and south of the South Langston pool, had dug cellar and pits and was moving in tools.

Creek County

One new producer was completed in Creek County at Klingensmith No. 4 Gilcrease, C E half SE SE section 33-17-12. It had Wilcox sand at 2,275-2,300 feet, total depth; was shot and swabbed 150 bbls. of oil in 24 hours.

Akin Oil Co. No. 2 Smith, NE NW SE section 9-17-8, was dry and abandoned at 1,416 feet, total depth. Sinclair Prairie Oil Co. and Mid-Continent

DEPARTMENT OF GEOGRAPHY
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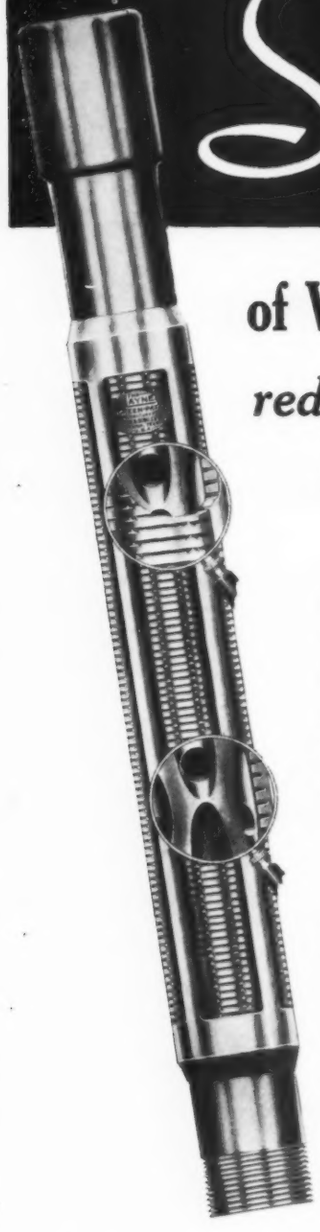
LESS Sanding-up



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reduces frequency of washing out.

The smooth surface and even distribution of pressure on wire wrapped screen very materially reduces sanding up and makes the expensive job of washing, a rare one indeed. Should a Wire Wrapped Screen become clogged after a long period of service, the job of washing it clean is an easy one.

Wire Wrapped Screen is far easier to pull, should it become necessary to do so. The fishing tool can get a more secure grip on the pipe, since the wire wrapping prevents expansion of the pipe.

The LAYNE WIRE WRAPPED SCREEN reduces the possibility of sanding up to an absolute minimum. The wire used is a specially made tapered shape. The small side of the taper is wrapped next to the pipe, to give a narrower opening on the outside than that on the pipe and over the perforations. Anything passing through the outside opening will go on through the wire and be pumped out.

The Layne & Bowler Company
Houston, Texas

Export: Petroleum Machinery Corporation, 30 Rockefeller Plaza, New York City, N. Y.

THE LAYNE WIRE WRAPPED SCREEN

Petroleum Corp. No. 1 Pressure, CSL SW SW sections 15 and 22-17-7, was completed as a repressure well at 2,897 feet, total depth.

Sooner Oil & Gas Co. No. 1-A Barnett, SE NE SE section 7-16-11, Pickett Prairie area, Creek County, topped Dutcher sand at 2,304 feet and was dry and abandoned at 2,325 feet, total depth.

H. F. Wilcox Oil & Gas Co. No. 2 Hope, SW NW SW section 3-17-9, had spudded. Meissner & Coffey No. 1-A Mayfield, C SE SW section 15-17-11, South Sapulpa area, was drilling at 800 feet. J. P. Brady & Sons No. 1-A Carothers, CNL SE SE section 18-19-9, was rigging up machine.

Pottawatomie County

R. Olsen and others No. 1 Gillis, NW NE NW section 5-10-4, Shawnee pool, Pottawatomie County, topped Earlsboro sand at 4,418 feet; total depth, 4,459 feet; and flowed 200 bbls. of oil through casing in 24 hours.

Magnolia Petroleum Co. No. 2 Green, NE SW NW section 13-7-4, St. Louis area, was a location.

Okmulgee County

Abe Labenne No. 8 Hill, SE NE SW section 23-15-11, North Beggs area, Okmulgee County, had Bartlesville sand at 1,823-36 feet, total depth; was shot and produced 2 bbls. of oil daily.

A-Z Oil Co. No. 1-B Jefferson, NW NE NE section 9-14-15, produced 4 bbls. of oil at 1,435 feet, total depth, but was plugged and abandoned because of inadequate facilities. English and others No. 3 Stewart, SW SW SE section 1-14-14, had a hole full of water at 1,530 feet, total depth, and was dry and abandoned. E. F. Blaise and others No. 11 Fox, SE SE NW section 22-13-14, an old well, was deepened from 2,462 feet to 2,783 feet, pumped 7 bbls. of oil daily and was recompleted.

Warren Clark No. 1-A Burgess, NE NE SW section 26-12-12, Okmulgee County, was spudding at 200 feet. J. L. Selby No. 2-A Grayson, C N half NW NE section 3-14-14, was drilling at 600 feet. R. E. Downing and others No. 26 George Colbert, SW NW NE NW section 1-15-14, was drilling at 400 feet. Dixie Oil Co. No. 1 Grace Lloyd, NE NE SE section 20-16-12, was moving in.

Tulsa County

Duffield Oil Co. No. 1-A Fisher, SW NW NE SW section 1-17-12, Jenks area, Tulsa County, was dry and abandoned at 1,330 feet, total depth.

Activity in the Tulsa Airport field continued with no let-up in interest on the part of Tulsa operators, despite limitation of the producing area on the north and apparent limitation on the south. Several producers have been completed, some with production ranging above 100 bbls., and three dry holes have been drilled in the area.

S. W. Anthony No. 3 Wilcox, C N half N half NW section 3-16-12, an old well in the Independent pool, was preparing for deepening.

Carter County

Carl Carter No. 1-A Harley, SW NW NW section 19-2s-3w, Carter County, was completed as a 3-bbl. pumper at 371 feet, total depth. Same operator's No. 2-A Harley, SW SW NW NW section 19-2s-3w, was completed as an 8-bbl. pumper at 384 feet, total depth. Pure Oil Co. No. 32 Lowery, SW SE SE section 4-4s-3w, was completed as a 4-bbl. pumper after plugging back from 1,115 feet, total depth, to 935 feet and shooting.

Samedan Oil Co. No. 11 Pierce A, NE NE SW section 7-2s-2w, missed pay sands and was dry and abandoned at 2,700 feet, total depth.

Helmerich & Payne No. 1 Wolverton, SE NE NW section 21-3s-1w, wildcat, was an abandoned location.

New work in Carter County: Lykins & Wakefield No. 1 Luke, NW NW SW section 9-1s-2w, drilling at 235 feet; Skelly Oil Co. No. 2 Higgins, SW NW NW section 8-2s-2w, rigging up rotary; Carl Carter No. 3-A Harley, NW NW SW NW section

(Continued on Page 82)

East and East Central Texas

By
L. E. BREDBERG

DRY HOLE ON NORTH EDGE OF TALCO; SALE IN EAST TEXAS

DALLAS, Tex., Mar. 29.—A deep test was abandoned in the Talco area in Titus County and at the same time announcement was made of another venture for deeper production in this field in northwestern Titus and northeastern Franklin counties.

J. Z. Werby and others, who carried the old Stroube & Stroube hole on the Williams farm, in the M.E.P.R.R. Survey, down to the Glen Rose in quest of production from the Lower Trinity series, have given up the test at a total depth of 6,219 feet. It is about 2½ miles east of the nearest oil wells in the Talco field, Titus County, and missed production in the Paluxy sand, upper member of the Trinity, and was the first test to be carried to the Glen Rose in the area. Elevation is 341 feet.

The Hollandsworth Drilling Co. of Dallas, which has production from the Paluxy, in the Talco Townsite, in Titus County, is planning on drilling the second deep test in the Talco district. This test will be put down on the company's 20-acre Jim Morris lease on the south edge of the town, in quest of production from the Lower Glen Rose, and will probably decide whether or not other deep wells are to be sunk in the field. Due to its location near the center of the field from east to west, it will be more important than the Werby test east of the field.

Talco Dry Hole

W. O. Chenault and others missed production in the Paluxy sand on the north edge of the Talco Townsite, on the north edge of the field, and abandoned their No. 1 T. J. Sanders, in the C. Paine Survey, at a total depth of 4,374 feet. Elevation is 365 feet.

Outpost Location

An interesting outpost location for the Sulphur Bluff field in Hopkins County, has been staked by the Rio Oil Corp. of Fort Worth, and the F. B. Jones Drilling Co. of Dallas has contract to drill this Paluxy sand test. Location is on the R. A. Logan farm, in the A. Wetmore Survey, about 1 mile west of the nearest production in the field. The Texas Co. is starting work on a test in Sulphur Bluff and if the test of the Rio Oil Corp. makes a producing well, the Sun Oil Co. will probably start developing its lease to the east, all of which would step up activities in the field.

Bowie Wildcats

Thompson and Jaffie have moved in a derrick on the R. Rosalind farm, in the J. Milam Survey, 3 miles southwest of Redwater in Bowie County, about 3 miles from a test made in 1931.

Hunt Test Spudded

The Trinity series test of the Penn Oil Corp. and others on the A. B. Parish lands, in the Nancy Danley Survey, near Lone Oak, in Hunt County, has been spudded by H. H. Wagoner who has the drilling contract. Some 5,000 acres surround the test in the block, which was worked by geologists and also checked by the Geophysical Petroleum Surveys, Inc., of Dallas.

Fannin Tests

A. L. Chaffin and J. Q. Stewart have given contract to W. W. Richardson of Tyler for a 4,500-foot test on a block of 7,000 acres north of Dodd City in northern Fannin County, and W. H. Carlin of Tyler was given contract for a 4,000-foot hole on a block of 4,000 acres north of Bonham, in Fannin County.

Probable Test

John T. Callahan of San Antonio, has been blocking acreage for a new wildcat test in the Aaron York Survey near the town of Brownsboro in the eastern half of Henderson County, this block being in an area in which a previous test was contemplated but failed to materialize.

Cherokee Wildcat

J. G. Mayo Oil Co. has staked location for a wildcat on the J. E. Bailey farm in the J. H. Russell Survey, 2½ miles west of Lone Star in Cherokee County. This will be a Woodbine sand test. Another wildcat for the district is that of H. H. Bell and others on the A. Garrett farm, in the J. M. Sanches Survey in Falls County. Rig is being moved in on location. Angelina County is also receiving another wildcat test. W. Sander is drilling around 525 feet on his No. 1 B. L. Collins, in the D. W. Welch Survey, a shallow test.

East Texas Field

The Gulf Oil Corp. and Humble Oil & Refining Co. are reported planning to drill a Trinity test on their jointly held block south and west of Longview, and on the eastern flank of the northern part of the East Texas field in Gregg County. The test is scheduled to go to 6,000 feet. Two other wells are scheduled for the eastern flank of the field, one in the Tatum area in Rusk County and the other in the Rosborough Springs area. The extension of Rodessa production into Cass County and the recent Marion County strike has no doubt caused this reflection play along the East Texas field's eastern flank, causing a large amount of new leasing in Rusk and Gregg counties.

Sale

Following a recent purchase of 41 producing wells in the East Texas field by the American Liberty Oil Co. from the Invincible Oil Co. (L. E. and L. M. Lockhart), the former company has announced the purchase of the latter company for a consideration of $2,500,000, of which $250,000 is to be in cash and the remainder payable over a 10-year period. The leases on which the 41 wells are located, are north of the Sabine River in the Armendares and Penn Survey, in Gregg County. This is one of the largest sales made in the field in several months. The American Liberty Oil Co. is building up its holdings in East Texas until it outranks some of the major companies in that field, and has erected its own pipe line to the Gulf from the field. Dudley S. Golding is president and C. W. Murchison is vice president.

EAST CENTRAL TEXAS COMPLETIONS

Angelina County

G. T. Vant-Hull No. 1 W. D. Ivy, 1,413-1,500 feet, dry and abandoned, west of Huntington.

Anderson County

F. H. E. Oil Co. No. 1 J. H. Morrow, 5,350-55 feet, 93 bbls. in 24 hours through one-eighth inch choke. Tide Water and Seaboard No. 4 Monning, 5,286 feet, 38 bbls. in 24 hours through 5⅜-inch choke.

Falls County

Thirteen Oil & Refining Co. No. 1 H. E. Roberts, junked and abandoned 2,158 feet, elevation 448 feet, 6 miles southeast of Lott.

Fannin County

Styles & Smith No. 1 R. Stewman, abandoned 588 feet, 2 miles southeast of Trenton.

Franklin County

W. O. Chenault and others No. 1 T. J. Sanders, dry and abandoned 4,374 feet, elevation 365 feet, Talco field. L. F. Flannery and others No. 2 M. A. Hedrick, 4,265 feet, 23 bbls. per hour for three hours, on pump.

Henderson County

W. H. Goodnight No. 1 Litchfield, 4,097 feet, 20 bbls. in 24 hours through 3/32-inch choke. Roeser-Pendleton, Inc., No. 2 B. H. Wathen, 4,078-4,104 feet, 167 bbls. in 24 hours through one-eighth inch choke.

Titus County

Byrd-Frost, Inc., No. 1 G. W. Belcher, 4,267 feet, 15 bbls. per hour on pump. K. & A. Oil Co. No. 1 K. Moore, 4,345 feet, 10 bbls. per hour on pump; No. 1 Nugent Heirs, 4,300 feet, 12 bbls. per hour on pump. Magnolia Petroleum Co. No. 4 C. W. Belcher, 4,320 feet, 320 bbls. in 24 hours on pump. J. Z. Werby and others No. 1 S. Williams, dry and abandoned 6,219 feet, elevation 341 feet.

EAST TEXAS COMPLETIONS

Gregg County

Amerada Petroleum Corp. No. 14 R. L. Hearne, 3,509-20 feet, 20 bbls. in 25 minutes. Arkansas Fuel Oil Co. No. 12 M. D. Allison, 3,581-3,606 feet, 28 bbls. in 15 minutes. Gulf Oil Corp. No. 83 Judge, 3,516-32 feet, 65 bbls. per hour. Rancho Oil Co. No. 6 Bumpass, 3,550-73 feet, 60 bbls. per hour. Shasta Oil Co. No. 10-A Campbell, 3,590-3,604 feet, 35 bbls. in 30 minutes. Sinclair Prairie Oil Co. No. 18 York, 3,567-68 feet, 20 bbls. in 15 minutes. Stanolind Oil & Gas No. 23-B Lathrop, 3,530-69 feet, 52 bbls. per hour; No. 50-B McKinley, 3,598-3,633 feet, 60 bbls. per hour. Stanolind Oil & Gas No. 12 Fonville, 3,526-60 feet, 65 bbls. per hour. Sun Oil Co. No. 14 McKinley, 3,638-68 feet, 15 bbls. in 20 minutes; No. 44 Cole, 3,517-39 feet, 69 bbls. per hour. Tide Water Associated Co. No. 15-A Nettleton, 3,514-34 feet, 40 bbls. per hour. Howell-Hawkins No. 1 M. Strong, 3,616-17 feet, 20 bbls. per hour. Alex McCutchin No. 3 Elder, 3,504-3,620 feet, 40 bbls. per hour.

Rusk County

Gier Brothers No. 5 H. C. Minor, 3,728-30 feet, 50 bbls. per hour. Luling Oil & Gas Co. No. 6-A Brightwell, 3,611-40 feet, 60 bbls. per hour. John Merrick No. 1 I.&B.N.R.R., 3,689-90 feet, 20 bbls. in four hours on pump. Amerada Petroleum Corp. and others No. 30 J. B. Stovall, 3,600-36 feet, 20 bbls. in 20 minutes. Humble Oil & Refining Co. No.

(Continued on Page 86)

Use S & J Flame Arresters on High or Low Pressure Storage

The S. & J. Flame Arrester shown at the right, serves a highly important function in protecting the interconnected tankage of a vapor recovery system.

Although sufficiently important in the fire protection of individual storage tanks to justify their generous use, they are almost imperative in affording adequate fire protection to all tanks connected to an individual regulating valve in a vapor recovery system.

The S. & J. Flame Arrester is made of aluminum and is approximately one-third lighter in weight than comparable cast iron flame arresters, and its corrosion resistance is far greater. The body casting is accurately machined and the faces of the removable and renewable tube bank are carefully ground to insure a close fit, indispensable to the proper performance of a flame arrester.

The S. & J. Flame Arrester is available in 2", 3", 4", 6", and 8" sizes and each size is

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The S. & J. Flame Arrester shown in combination with the S. & J. Still Type Breather Valve, for high pressure storage applications.

The S. & J. Flame Arrester shown in combination with the S. & J. All Weather Poppet Type Breather for low pressure storage.

The illustrations at the left show the correct methods of applying the S. & J. Flame Arrester to either high pressure or conventional storage tanks.

When used on spherical or spheroidal high pressure tanks the S. & J. Still Type Breather Valve is an indispensable unit of a complete installation. It is one of a complete line of S. & J. fittings for spherical and spheroidal tanks.

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SHAND & JURS

Rocky Mountain Area

By T. R. INGRAM

TWO LEA COUNTY WILDCATS OPEN NEW PRODUCING AREAS

DENVER, Colo., Mar. 29.—Contract for new Bay Petroleum Corp. refinery at Denver was awarded to the Ampco Co. Location for the Morgan & Flynn test in Kiowa County, eastern Colorado, is reported revived. The Mancos Creek pool in Montezuma County has been abandoned and all wells plugged.

The Medicine Bow Oil Co.'s gas discovery in Allen Lake field, Carbon County, Wyoming, is being deepened through the Sundance for oil. Indian leases in old Plunkett field brought bonuses of $2,925 on 480 acres. Holly Development Co. No. 1 Novick, outside well at Lance Creek, was completed as a good producer. Ohio Oil Co. No. 9 Lamb was deepened 18 feet and increased from 347 bbls. per day on pump to 30 bbls. per hour.

Cut Bank and Kevin-Sunburst fields in Montana had their first completions for the year. The Glacier Production Co. No. 1 Williams, in Cut Bank, made 44 bbls. initial and W. M. Fulton No. 1 Thompson in Kevin-Sunburst made 24 bbls. Two new locations were made in Yellowstone County.

NEW MEXICO

Two New Mexico wildcats gave promise of opening new producing areas or extending proven fields in Lea County. Continental Oil Co. No. 1 Skaggs, C NE SE section 24-20-37, east of the Monument-Eunice district, flowed 20 bbls. of oil an hour for six hours, it was reported. It was bottomed at 3,900 feet. The well is about 3 miles east of the south end of the Monument area and 4 miles east of the Eunice field.

Texas Co. and others No. 1 Alexander, SE NW section 5-21-37, 2½ miles northeast of Eunice production and 2 miles north of the Hardy pool, flowed an estimated 125 bbls. of oil daily by heads from total depth of 3,705 feet, in top of pay thought to be lime.

Barnsdall Oil Co. completed a large producer in the Monument area at No. 7 Cooper, C NW SW section 7-20-37. It flowed at the rate of 260 bbls. of oil an hour, naturally, through 1-inch choke on tubing. Gas gauged 1,700,000 feet of gas. Top of pay was 3,800 feet; total depth, 3,885 feet.

Other Lea County completions were as follows:

Skelly Oil Co. No. 2 State F, C SW SE section 17-20-37; topped pay at 3,710 feet; total depth, 3,878 feet; flowed 108 bbls. of oil an hour, naturally. Same operator's No. 2 Van Etten, C SW SW section 9-20-37; pay, 3,815 feet; total depth, 3,865 feet; flowed 190 bbls. of oil an hour, naturally.

Oil Well Drilling Co. No. 2 Wood-State, NW section 16-20-37; pay, 3,800 feet; total depth, 3,832 feet; flowed 250 bbls. of oil an hour, naturally, with 4,200,000 feet of gas.

Tide Water Oil Co. No. 2-I State, C NE SW section 16-20-37; pay, 3,795 feet; total depth, 3,860 feet; plugged back to 3,850 feet; flowed 372 bbls. of oil in 12 hours.

Anderson-Prichard Oil Corp. No. 7 Britt, SE NW SE section 7-20-37; pay, 3,809 feet; total depth, 3,852 feet; flowed 66 bbls. of oil an hour, naturally, through tubing.

Amerada Petroleum Corp. No. 3 Byrd, section 3-12-20; pay, 3,784 feet; total depth, 3,875 feet; flowed 315 bbls. of oil in 18 hours, naturally, through choke.

Texas Co. No. 1 Cook, C NE NE section 32-19-37; pay, 3,790 feet; total depth, 3,929 feet; acidized and flowed 198 bbls. of oil in 18 hours.

Continental Oil Co. No. 3 Britt B, section 18-20-37; pay, 3,818-72 feet, total depth; acidized and flowed 40 bbls. of oil an hour on gas lift.

Gulf Oil Corp. No. 3 Graham State F, C NW NE section 36-19-36; pay, 3,855 feet; total depth, 3,921 feet; flowed 311 bbls. of oil in three hours.

Superior Oil Corp. No. 1 State B, C NE SE section 13-20-36; pay, 3,810 feet; total depth, 3,875 feet; acidized; flowed 76 bbls. of oil an hour through choke.

Repollo Oil Co. No. 5 Barber, SE cor. section 7-20-37; pay, 3,812 feet; total depth, 3,870 feet; flowed 502 bbls. of oil in seven hours through choke.

Gulf Oil Corp. No. 4 Collins, C NE SW section 14-21-36; pay, 3,785 feet; total depth, 3,880 feet; shot and acidized; flowed 105 bbls. of oil a day through tubing, cutting 5 per cent basic sediment and water. Same company's No. 5 Leonard, C NE NE section 22-21-36; pay, 3,805 feet; total depth, 3,874 feet; flowed 207 bbls. of oil naturally in six hours, through tubing.

Amerada Petroleum Corp. No. 3-W State, C SW NE section 30-20-37; pay, 3,728 feet; total depth, 3,852 feet; acidized; flowed 130 bbls. of oil in eight hours through choke.

Plains Production Co. No. 4 Knight, C SW SW section 22-24-37; pay, 3,440 feet; total depth, 3,580 feet; shot and flowed 250 bbls. of oil daily.

Two wells in Eddy County were completed. Flint Production Co. No. 1 Flint, section 14-17-30, topped pay at 3,082 feet and was bottomed at 3,459 feet. It was acidized and flowed 241 bbls. of oil daily. Flynn, Welch & Yates No. 3 Gissler, SW SE SW section 14-17-30, had pay at 3,241 feet; total depth, 3,503 feet; acidized and flowed 111 bbls. of oil daily.

Monument Area

Magnolia Pet. Co. No. 2 Cary, sec. 21-22-37. T.D. 3,620 ft.; hole full of oil.
Phillips Pet. Co. No. 1 Mexico, NE cor. sec. 18-20-37. Drlg. 3,480 ft.
Continental Oil Co. No. 11 Sanderson A, C SE SE sec. 11-20-36. T.D. 3,871 ft.; flowed 16 B.O. an hour.
Gulf Oil Corp. No. 2 Hatchett, C SW NW sec. 33-19-37. T.D. 3,765 ft.; set csg.
Gulf Oil Corp. No. 3 Whitmore, C SE NW sec. 8-20-37. Drlg. 3,817 ft.
Skelly Oil Co. No. 3 Van Etten, C SE SW sec. 9-20-37. Drlg. 3,837 ft.
Amerada Pet. Corp. No. 6 Andrews, C SW SW sec. 12-20-36. T.D. 3,800 ft.; set csg.
Ohio Oil Co. No. 3 State-McGrail, C NE SW sec. 26-19-36. T.D. 3,800 ft.; drlg. plug.
Gulf Oil Corp. No. 4-F Graham-State, C SW SE sec. 36-19-36. T.D. 3,875 ft.; set csg.
Amerada Pet. Corp. No. 5 Byrd, C SE NW sec. 12-20-36. Drlg. 3,175 ft.
Amerada Pet. Corp. No. 1 Laughlin, W½ NW NW sec. 9-20-37. T.D. 3,804 ft.; set csg.
Gulf Oil Corp. No. 5 Anderson, C SE NW sec. 17-20-37. Drlg. 2,165 ft.
Phillips Pet. Co. No. 2 Mexico, C SW NE sec. 18-20-37. Drlg. 2,760 ft.
Amerada Pet. Corp. No. 4 Lambert, C SE NE sec. 6-20-37. T.D. 3,695 ft.; drill pipe stuck.
Ohio Oil Co. No. 2 Laughlin, C SE NW sec. 9-20-37. Drlg. 3,708 ft.
Amerada Pet. Corp. No. 4 Phillips, C NW NE sec. 1-20-36. T.D. 2,365 ft.; set csg.
Amerada Pet. Corp. No. 1-X State, C NW SW sec. 16-20-37. T.D. 210 ft.; set csg.
Amerada Pet. Corp. No. 8 Weir, C NW NW sec. 35-19-36. Drlg. 2,787 ft.
Barnsdall Oil Co. No. 8 Cooper, C SE SE sec. 12-20-36. Drlg. 2,362 ft.
Continental Oil Co. No. 16-C-1 State, C SW NW sec. 16-20-37. Drlg. 2,480 ft.
Gulf Oil Corp. No. 1 Bates, C SE SE sec. 26-19-36. Drlg. 3,820 ft.
Gulf Oil Corp. No. 1-D Orcutt, C NW NE sec. 13-20-36. Drlg. 2,620 ft.
Phillips Pet. Co. No. 1 Edna-State, C NW NW sec. 30-20-37. T.D. 1,075 ft.; set csg.
Phillips Pet. Co. No. 1 Mexico-State, C NE NE sec. 30-20-37. Drlg. 2,740 ft.
Repollo Oil Co. No. 4-A Phillips, NW SW sec. 31-19-37. Drlg. 2,305 ft.
Tide Water Oil Co. No. 2 Laughlin, C NE SW sec. 4-20-37. Moving in material.
Amerada Pet. Corp. No. 3-V State, NE sec. 36-19-36. Derrick.
Amerada Pet. Corp. No. 3-F State, SW sec. 36-19-36. Drlg. 645 ft.
Stanolind O. & G. Co. No. 2 Gillully, SW sec. 33-20-37. Drlg. 768 ft.
Shell Pet. Corp. No. 3-M State, NE sec. 1-21-35. T.D. 1,265 ft.; set csg.
Amerada Pet. Corp. No. 2-A Byrd, sec. 12-20-36. Derrick.
Amerada Pet. Corp. No. 2 Laughlin, sec. 9-20-37. Derrick.
Gulf Oil Corp. No. 6 Anderson, sec. 17-20-37. T.D. 285 ft.; set csg.
Gulf Oil Corp. No. 1 Bell-State, sec. 36-20-36. T.D. 1,179 ft.; W.O.C.
Gulf Oil Corp. No. 2-F Bell-State, sec. 36-20-36. Derrick.
Gulf Oil Corp. No. 3-F Bell-State, sec. 36-20-36. R.U.R.
Humble O. & R. Co. No. 5 Laughlin, sec. 4-20-37. Drlg. 1,461 ft.
Humble O. & R. Co. No. 3-F State, sec. 17-20-37. Cellar and pits.
Phillips Pet. Co. No. 1 Hudson-State, sec. 30-20-37. Drk.
Phillips Pet. Co. No. 1 Quapaw-State, sec. 10-20-37. T.D. 170 ft.; set csg.
Repollo Oil Co. No. 4 Byrd, sec. 11-20-36. T.D. 247 ft.; set csg.
Texas Co. No. 2-K State, sec. 18-19-37. Derrick.
Amerada Pet. Corp. No. 6 Byrd, C SW SE sec. 12-20-36. Loc.
Gulf Oil Corp. No. 1-C Kutter State, C SE NE sec. 18-19-37. Cellar and pits.
Gulf Oil Corp. No. 7 Anderson, C SE NE sec. 17-20-37. Bldg. drk.
Gulf Oil Corp. No. 2 Smith, C NE NE sec. 34-19-36. Loc.
Shell Pet. Corp. No. 2-E State, C NW NW sec. 13-20-36. Loc.
Shell Pet. Corp. No. 4-K State, C NW NE sec. 36-20-36. Cellar and pits.
Tide Water Associated Oil Co. No. 1-J.State, C SW NW sec. 17-19-37. Cellar and pits.

Chaves County

J. & L. Drlg. Co. No. 1 Hurd, C SE NW sec. 14-11-26. T.D. 190 ft.; R.U.R.
Elliott No. 1 State, NW sec. 16-8-23. T.D. 773 ft.; fishing.
English & Harmon No. 1 Billingslea, SE sec. 9-15-29. Rigging up machine.
Warman Oil Co. No. 1 Weldan & Hoar, sec. 9-14-25. T.D. 1,732 ft.; S.D.

Eunice Area

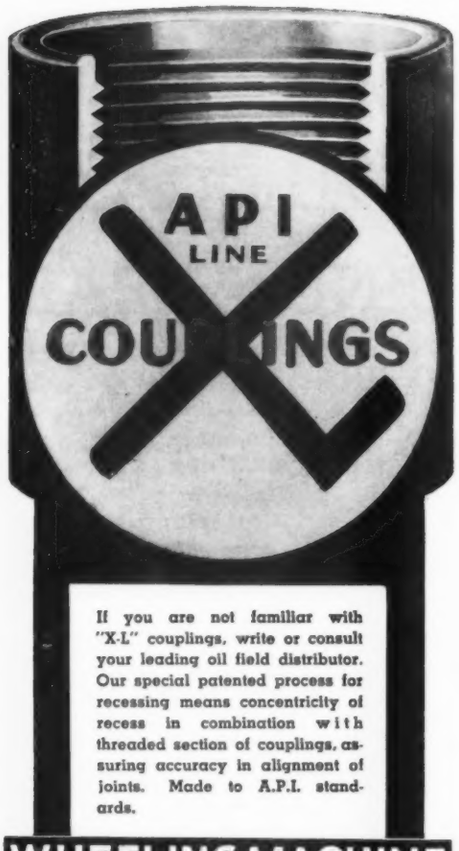
Getty Oil Corp. No. 1 State D, C SE NE sec. 32-20-37. T.D. 3,860 ft.; S.D. for orders.
Gulf Oil Corp. No. 4 Leonard, C SW NE sec. 22-21-36. T.D. 3,905 ft.; P.B. to 3,892 ft.; testing.
Jim Murray No. 4 State-Wallace, sec. 3-21-36. Cellar.
Gulf Oil Corp. No. 1 Bell-Ramsey B, C SW SW sec. 29-20-37. T.D. 3,840 ft.; shot.
Amerada Pet. Corp. No. 4-W State, C SE SE sec. 30-20-37. Drlg. 3,085 ft.
Continental Oil Co. No. 7-D-15 State, C NW SE sec. 15-21-36. T.D. 3,878 ft.; flowed 114 bbls. an hour.
Gulf Oil Corp. No. 12-C Arnott-Ramsey, C NW SE sec. 21-21-36. Drlg. 925 ft.
Shell Pet. Corp. No. 2-H State, CWL NE NE sec. 13-21-35. Drlg. 3,850 ft.
Atlantic Ref. Co. No. 5 State L, C NW NW sec. 3-21-36. Drlg. 3,776 ft.
Two States et al No. 1 State, C SE NW sec. 11-21-36. Drlg. 3,820 ft.
Gulf Oil Corp. No. 2 White, C NE SE sec. 25-20-36. Drlg. 3,022 ft.
Texas Co. No. 6 Lieu-Lands, C NW NE sec. 20-20-37. T.D. 3,700 ft.; drlg. plug.
Mid-Continent Pet. Corp. No. 1 Reener, C NW NW sec. 29-20-37. Drlg. 3,343 ft.
Texas Co. No. 5 State-Aggies, SE NE SE sec. 31-20-37. Drlg. 3,128 ft.
Tide Water Associated Oil Co. No. 1 Marshall, C SW NE sec. 13-21-36. Drlg. 3,150 ft.
Continental Oil Co. No. 14-B-6 Lockhart, C SW SW sec. 14-21-36. Drlg. 3,517 ft.
Continental Oil Co. No. 15-D-8 State, C SE SE sec. 15-21-36. Drlg. 3,246 ft.
Ohio Oil Co. No. 6 McDonald, C SE SW sec. 16-22-36. Cellar.
Oil Well Drlg. Co. No. 1 State A, C NW NW sec. 16-22-36. Drlg. 3,350 ft.
Stanolind O. & G. Co. No. 1 Owen, NW sec. 3-22-37. R.U.R.
Devonian Oil Co. No. 2 State, SE sec. 3-21-36. Drlg. 3,529 ft.
Continental Oil Co. No. 30-A-4 Lockhart, sec. 30-21-36. Bldg. derrick.
Two States & Southern Pet. Expl. No. 3 McQuatters, C SW NE sec. 11-21-36. Cellar and pits.

Hobbs Area

Stanolind O. & R. Co. No. 9 State, sec. 9-19-38. Location.
Stanolind O. & R. Co. No. 7-X Thorpe, sec. 18-19-37. T.D. 280 ft.; set csg.

Sims Area

Skelly Oil Co. No. 1 R. R. Simms C, C SE SW sec. 3-23-37. T.D. 3,388 ft.; drlg. by tools at 3,355 ft.
Penrose & Rowan No. 3 Cary, C SE NW sec. 22-22-37. Drlg. 3,006 ft.
W. H. Street et al No. 1 Wood, C W½ SE NE NE sec. 22-22-37. T.D. 3,654 ft.; C.O. after shot.



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J. E. Farrell No. 1 Walden, C sec. 15-22-37. T.D. 3,686 ft.; running tbg.
J. E. Farrell No. 1-A Walden, C SW NW sec. 15-22-37. T.D. 3,551 ft.; S.D.
Skelly Oil Co. No. 4 Baker, C SW NW sec. 27-22-37. T.D. 3,390 ft.; drlg. plug.
Texas Co. No. 1 Falby, C NE NW sec. 8-22-37. T.D. 1,213 ft.
Skelly Oil Co. No. 1 Sticher, sec. 4-22-37. Drk.
Gulf Oil Co. No. 1 Davis, sec. 8-23-37. Loc.
J. E. Farrell No. 2-B Walden, C NE SW sec. 15-22-37. Loc.
J. E. Farrell No. 2-C Walden, C SE SW sec. 15-22-37. Rig.

Cooper Area

Southern Oil Corp. No. 1 Gates, C SW NW sec. 23-24-26. T.D. 3,514 ft.; S.D. for orders.
Continental Oil Co. No. 1 Danciger, C NW NE sec. 8-22-36. T.D. 3,730 ft.; set csg.
Amerada Pet. Corp. No. 3 Isabell, C SW NE sec. 15-24-36. R.U.R.

Lea County—Miscellaneous

Brown & Reynolds No. 1 Parcell, C NW SE sec. 8-21-38. Wildcat; T.D. 4,373 ft.; acidized; flowed and swabbed oil; showing water.
Amon G. Carter No. 2 Elliott, C NE NW sec. 22-22-37. T.D. 3,622 ft.; drlg. by bit.
Magnolia Pet. Co. No. 1 State G, NW NW NE sec. 24-17-34. T.D. 4,905 ft.; P.B. 4,775 ft.; shot and C.O.
Culberson-Irwin & Stovall No. 3 Stuart, NE SE SW sec. 10-25-37. Drlg. 1,050 ft.
Continental Oil Co. No. 1 Wantz, C SW SW sec. 21-21-37. T.D. 3,815 ft.; to deepen.
Ohio Oil Co. No. 5 State-McDonald, sec. 16-22-36. Drlg. 5,456 ft.
Stanolind O. & G. Co. No. 1 Meyers, sec. 22-24-37. T.D. 3,553 ft.; flow 5 to 6 bbls. oil per hour.
Texas Co. No. 1 Alexander, sec. 5-21-37. T.D. 3,705 ft.; swabbing and flowing 25 to 60 bbls. oil an hour.
Sun Oil Co. No. 2 Stewart, C SW NE sec. 15-25-37. Drlg. 2,671 ft.
Tide Water Associated Oil Co. No. 2 Walden, C SW NE sec. 21-22-37. Drlg. 3,579 ft.
Continental Oil Co. No. 1 Skaggs Permit, C NE SE sec. 24-20-37. Wildcat; T.D. 3,900 ft.; acidized; flowed 120 bbls. in six hours.
Shell Pet. Corp. No. 2 Black, C SW SE sec. 21-24-27. Drlg. 3,340 ft.
Texas Co. No. 3 Sheppard B, SW NE NE sec. 5-26-37. T.D. 3,290 ft.; P.B. to 3,265 ft.
J. L. Perry No. 1 Elliott, SE cor. sec. 19-21-37. Drk.
Samedan Oil Co. No. 3 Hughes, sec. 4-23-37. Drlg. 2,870 ft.
Texas Co. No. 2 Black, sec. 21-24-37. Drlg. 2,865 ft.
Gulf Oil Corp. No. 1 Hardy, C SE SW sec. 20-21-37. Drlg. 2,605 ft.
Mack & Stauffer No. 1 Grizzell, C NW NE sec. 8-22-37. T.D. 3,440 ft.; S.D. for repairs.
Anderson-Prichard Oil Corp. No. 1 Wells, C SE SE sec. 5-25-37. Drlg. 265 ft.
Herschback et al No. 1 Alston, C SW NE sec. 31-17-37. Wildcat; drlg. 1,590 ft.
J. C. Clower No. 2 Turner, SW SW SE sec. 29-21-37. Drlg. 3,500 ft.
Continental Oil Co. No. 4 McCallister A, C N½ NE SE sec. 24-26-36. T.D. 3,245 ft.; tested 10 B.O. an hour.
Williams & Cockburn No. 3 Miller, C SW SW sec. 23-17-32. Drlg. 3,470 ft.
Gulf Oil Corp. No. 1 Mattern B, NE NE SE sec. 30-21-37. Drlg. 3,392 ft.
Ohio Oil Co. No. 1 Grizzell, C SW SE sec. 5-22-37. Drlg. 655 ft.
Mid-Continent Pet. Corp. No. 1 Boren, C NE NE sec. 20-22-36. T.D. 1,551 ft.; set csg.
Stanolind O. & G. Co. No. 2 Myers, SW sec. 4-24-37. Moving in material.
Stanolind O. & G. Co. No. 3 Myers, SE sec. 4-24-37. Cellar and pits.
Gulf Oil Corp. No. 1 Boyd, sec. 23-22-37. Bldg. drk.
Gulf Oil Corp. No. 2 King, sec. 28-21-37. R.U.R.
Gulf Oil Corp. No. 1 Shahan, sec. 33-25-37. Wildcat; celler and pits.
Gulf Oil Corp. No. 1 Woolworth, sec. 30-24-37. Wildcat; R.U.R.
Repollo Oil Co. No. 2-B Stuart, sec. 10-25-37. Loc.
Maljamar O. & G. Co. No. 3 Mitchell, C SE NE sec. 20-17-32. Location.
Texas Co. No. 1 Fristoe, C SW NW sec. 35-24-37. Loc.

Eddy County

Etz Bros. No. 3 State, sec. 16-17-30. T.D. 3,252 ft.; acidized; est. 10 bbls. oil per day.
McGinley & Harwell No. 7 Mann, SW cor. sec. 4-18-27. T.D. 2,285 ft.; running tbg.
Adams et al No. 1 Page, sec. 15-21-18. Wildcat; machine.
Republic Prod. Co. No. 7 Russell A, NW SE NW sec. 18-17-31. T.D. 3,200 ft.; set csg.
Republic Prod. Co. No. 3 Robinson Permit, C NE NE sec. 27-17-29. Drlg. 2,492 ft.
Barnsdall Oil Co. No. 5 Dodd, sec. 22-17-29. Drlg. 2,570 ft.
William Dooley No. 2 Hatchett, SW SW NE sec. 14-20-26. T.D. 80 ft.; S.D.
Neils Wills et al No. 1 Chase, C NW SW sec. 6-20-30. Wildcat; drlg. 1,650 ft.
H. C. Wells et al No. 1 State, NW SW NW sec. 19-20-30. Wildcat; T.D. 1,680 ft.; S.D.
H. & W. Drlg. Co. No. 1 Forgarty, C SW SW sec. 14-23-29. Wildcat; drlg. 336 ft.
Flint Prod. Co. No. 1-B Flint, sec. 20-17-30. Drlg. 1,445 ft.
Murchison No. 1-B State, SE sec. 16-17-30. Drlg. 1,545 ft.
Carper Drlg. Co. No. 1 Gissler, NW sec. 23-17-30. Location.
Continental Oil Co. No. 1 Barrett, NW sec. 22-20-30. Loc.
Wesley McCallister No. 1 Cagle, C NW NW sec. 8-26-30. Location.

Roosevelt County

Clovis Corp. No. 2 Wilmes, C SE NE sec. 17-2s-30e. Drlg. 2,860 ft.
Wirt Franklin and Flynn, Welch & Yates No. 1 Catts, C NW NW sec. 28-3n-30e. T.D. 5,195 ft.; to plug back and test.
Dummip Oil Co. No. 1 Todd, SE SE sec. 34-3n-29. Loc.

Otero County

George Muldey No. 1 State, SW cor. sec. 11-25-8e. T.D. 263 ft.; S.D.
O. K. Hearte No. 1 Hattie Evans, NW NW SW sec. 22-24-12. O.W.D.D.; wildcat; T.D. 1,951 ft.; S.D.

NORTHWEST NEW MEXICO

Bernalillo County

Norins Realty Co., Inc., No. 2 North Albuquerque, NE SE NW sec. 19-11n-4e. T.D. 3,000 ft.; R.U.R. to D.D.

McKinley County

S. Dysart et al No. 1 Bouton, NW NE sec. 14-14n-10w. T.D. 1,390 ft.; fshg.
Claude Walker No. 5 fee, SW SE sec. 20-20n-9w. T.D. 442 ft.; fsg.
Dave Stacey No. 1 Pat'd., NW SE NW sec. 28-20n-9w. Drlg. 330 ft. sh.

San Miguel County

S. W. Pressey et al No. 1 Faulkner, NE NE NE sec. 25-17n-16e. T.D. 5,082 ft.; cmtd. off wtr. and drlg. ahead.

San Juan County

Anna Oil Corp. No. 6 Govt., SW NE NE sec. 33-30n-11w. Drlg. 100 ft. (first report).

Socorro County

R. Allen Brown, Tr., No. 1 Belen Land Grant, SE NW sec. 16-2n-1e. M.I. rot.; 4,000-ft. test; contract to Western Drilling Co. (first report).

Valencia County

C. A. Grober et al No. 1 Fuqua, NE NE sec. 19-5n-3e. Drlg. 125 ft. (first report, Tome Grant Dist.).

COLORADO

Adams County

Glenridge Oil Co. No. 1 Hills, SE SE SE sec. 27-3s-64w. T.D. 4,345 ft.; fshg.

Archuleta County

All drilling operations in Archuleta County continue to be shut down on account of road conditions.

Baca County

The Paul R. Robb Petroleum Corp. No. 1 Lovette, NW cor. section 24-32n-48w, Edler district, reported abandoned last November at 2,790 feet, is preparing to resume in the near future. Corrected information is that a wooden plug was driven and operations suspended for the winter. All equipment is on the ground except the boiler, which was moved away. Plans provide for installation of diesel power.

Huerfano County

S. W. Pressey No. 1 Ojo, SW NE sec. 10-29s-69w. Drlg. 3,350 ft. after lowering 5-$\frac{3}{16}$-inch to bottom to S.O. cavings caused by gas; Dakota expected 3,900 ft.

Larimer County

L. D. Charboneau et al No. 1 Thompson, C NE sec. 12-4n-70w. Drlg. 120 ft. (first report, Berthoud field).

Kiowa County

Location is reported revived for Morgan & Flynn and others' test in the C NW SE section 6-20s-47w, Nee-No-She area, with the Gulf Oil Corp.,

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John C. Adams & Co.
INC.
INVESTMENT SECURITIES
50 Broadway New York

the Indian Territory Illuminating Oil Co. and others contributing. Magnolia Petroleum Co. has taken an offset quarter and the California Co. and the Deep Rock Oil Co. reported taking spreads. The Olson Drilling Co. has contract and will move in rotary as soon as it is released in Kansas. Location is 24 miles southeast of the Gulf No. 1 Risser-Union Pacific.

Lincoln County

Consolidated Smelting & Metals Corp. No. 1 Hancock, NE NE SW sec. 7-17s-52w. Drlg. below 2,200 ft.; S. green oil; will go to Pennsylvanian; carrying 8¼-in.

Moffat County

E. S. Shaw, W. A. Myers, Harold B. Jenkins and John J. Lawry have returned from the South Vermilion Creek district, where they made an examination of the territory, checked geological conditions and made a location for the test well to be drilled by the Anderson & Kerr Drilling Co. and others. Water supply and road conditions were checked and plans made to proceed with actual drilling, which will be commenced as soon as the location is made accessible, but a considerable amount of grading and filling in will have to be done before such is possible.

Mountain Fuel Supply Co. No. 1 Donnell, C SE NE sec. 31-12n-97w. Drlg. 1,826 ft.
Anderson-Kerr Drlg. et al No. 1 Govt., C SE SE sec. 19-9n-99w. T.D. 1,350 ft.; W.O. 12½-in. pipe; 5 ft. snow on ground.

Morgan County

Swisher et al No. 1 Lunt, SE cor. sec. 3-4n-60w. S.D.O. 1,718 ft.

Montezuma County

The small pool operated on Mancos Creek in the Southern Ute Indian Reservation for several years past was abandoned through the cancellation of lease. About 32 wells were drilled and several of these had small production at shallow depths. Three wells produced 218 bbls. in 1936. All wells have been plugged. Production in 1935 was 680 bbls. from the Mancos shale at around 350 feet. Wells were located principally in sections 10 and 11-32n-18w.

Park County

South Park Oil Co. No. 1 Lemar, NE NE SE sec. 34-11s-75. Landed 8¼-in. at 4,170 ft. to carry and drlg. ahead.
South Park Oil Co. No. 1 State, SE NE SW sec. 16-11s-75w. S.D. 5,705 ft.

WYOMING

Albany County

Hal Blakeman No. 1 Chapple, C NE NW sec. 33-21n-76w. Resuming at 1,680 ft.; C.O.
Ohio Oil Co. No. 1 Coughlin, SW NE NW sec. 26-16n-77w. Drlg. 403 ft.
Murphy Oil Co. No. 1 Holst-Woolf, NW NW NW sec. 19-17n-76w. T.D. 160 ft.; 13⅜-in. at 156 ft.; W.O.C.
Murphy Oil Co. No. 3 Wilson, SW NW SW sec. 18-17n-76w. Drlg. 1,954 ft.

Big Horn County

Stock Oil Co. No. 1-B Allen, Lot 52, sec. 32-56n-97w. T.D. 4,176 ft.; cmtd. 7-in. 3,903 ft.; swbg. in.
Ohio Oil Co. No. 1 Baker-Byron, SE NW sec. 23-56n-97w. Drlg. 3,780 ft. in sh. and shells.
Ohio Oil Co. No. 1 State, NE cor. Lot 38, sec. 36-56n-97. T.D. 5,418 ft.; acidized with 1,000 gals. in Embar-Tensleep.

Carbon County

The Medicine Bow Oil Co. No. 11 Hintze-Government, which was temporarily completed last December at 2,058 feet for 25,000,000 feet of gas per day in the upper Sundance and marked a 4-mile extension of the proven gas area in the Allen Lake field, is resuming and will drill down to test the Lower Sundance for oil. It had the top of the Sundance at 2,033 feet.

The Ohio Oil Co. No. 1 Harrison & Cooper, in the Rock Creek field, will make a small producer. At 3,325 feet it swabbed 20 bbls. per day. It is an old well deepened from the Dakota and extends the proven area in the Sundance one-fourth of a mile to the southeast. It topped the Sundance at 3,190 feet and encountered the first saturation at 3,225 feet.

Medicine Bow Oil Co. No. 1 Hintze-Govt., C NE SE sec. 18-22n-78w. Drlg. 2,080 ft.; will go to R.B.
Ohio Oil Co.-California Co. No. 2 Kyle, C SE SE sec. 26-21n-79w. Drlg. 3,762 ft.
Ohio Oil Co.-California Co. No. 4 Union Pacific, C SW SW sec. 25-21n-79w. Drlg. 2,513 ft.
Ohio Oil Co. No. 1 H.&C., SE SE SW sec. 35-20n-78w. T.D. 3,325 ft.; tstg.
Ohio Oil Co. No. 7 H.&C., C NW sec. 2-19-78. T.D. 5,671 ft.; P.B. from 5,630 ft.

Converse County

Chadron-Osage Oil Co. No. 1 State, SW cor. sec. 16-32n-69w. Resumed at 3,050 ft.; rng. tour.
Wyoming Southern Oil Co. No. 2 Salisbury, NE NW SE sec. 27-32n-69w. Drlg. 201 ft.

Fremont County

Oil and gas leases on tribal and allotted Indian land in the Shoshone Indian Reservation sold at auction at Fort Washakie on March 9 brought bonuses aggregating $2,925 on 480 acres located in section 23-1s-1e, in the Plunkett field. Sale included 280 acres to H. P. Cozad, Lincoln, Neb., $2,310; 120 acres to H. P. Coolidge, Great Falls, Montana, $340; 40 acres to Mike Wolf, Lander, $20; 40 acres to J. A. Decker and W. H. Connor, of Lander, $255.

Natrona County

Empire State Oil Co. No. 3-U, SE NE sec. 33-34n-83w. Drlg. 2,711 ft.
Wyalta Oil Co. No. 4 Govt., NW NW sec. 5-29n-81w. Cmtd. 6⅝-in. on top of Sundance at 1,082 ft.; rng. 2-in. tbg. to test at 1,030-72 ft.
Wyalta Oil Co. No. 5 Govt., SW SW sec. 30-30n-81w. Drlg. 600 ft.
Wyalta Oil Co. No. 6 Govt., NW NW sec. 5-29n-81w. Bldg. road to loc.

Niobrara County

The Holly Development Co. and A. B. Cobb No. 1 Novick, NE SE SW section 6-35n-65w, an outside well on the west side of Lance Creek, was completed at 2,990 feet in the Basal Sundance at 3,967-90 feet and made 207 bbls. in 21 hours. It was then shut in for storage. It proves up about one-fourth of a mile of territory. The 7-inch was cemented at 3,445 feet and 500 feet of liner was run inside the pipe and cemented. Elevation is 4,418 feet. It had saturation in the Dakota and Lakota, both of which were cased off.

The Ohio Oil Co. No. 9 Elizabeth Lamb, C SE NE section 5-35n-65w, an outside well on the southeastern flank which was completed at 4,072 feet last month for 347 bbls. per day on the pump, was deepened to 4,090 feet and flowed 30 bbls. per hour when partially cleaned. It had the top of the sand at 4,050 feet. Elevation is 4,446 feet. This is an important development as several wells on that side of the pool stopped drilling while still in sand rather than chance the running into water. The results of the deepening of No. 9 Lamb indicate that the nearby wells may be safely deepened through the sand.

The MacKinnie Oil & Drilling Co. has purchased the J. M. Huber Corp.'s half-interest in the Thompson lease in the W half of W half and E half of E half section 7-35n-65w, and is moving in material for its No. 2 Thompson. It is on the 40 west of its No. 1 Thompson, which was included in the deal. No. 1 is being reconditioned and will be put on the pump in a few days. The second well appears to be a little higher on structure than the Novick well to the north completed this week. Manning & Martin, Inc., have the drilling contract.

Ohio Oil Co. No. 8 Putnam, SW SE SW sec. 33-36n-65w. Spdg. 90 ft.
MacKinnie Oil & Drlg. Co. No. 2 Thompson, NW NW NE sec. 7-35n-65w. M.I.M.
J. M. Huber Corp. No. 1 Midwest, SE SE SW sec. 27-36n-65w. T.B. 3,540 ft.; C.O.; O.W.D.D.
Riggs Oil Co. No. 2 Spaugh, SE SE SW sec. 32-34n-65w. Drlg. 1,326 ft.; 16 ft. of dry Sundance at 400 ft.
Ohio Oil Co. No. 5 Leo, NW NW SW sec. 35-36n-65w. Drlg. 4,081 ft. in sh.; top first Sundance 4,059 ft.; el. 4,470 ft.
Continental Oil Co. No. 3-B Schuricht, C SE SE sec. 6-35n-65w. T.D. 4,027 ft.; sat. Sundance 3,931-4,027 ft.; cmtd. 7-in. 3,925 ft.; W.O.C.

Park County

General Pet. Corp. No. 1 Govt., NW NW NW sec. 33-47-100. Cg. 5,701 ft. in L.

Platte County

Dividend O. & R. Co., Inc., No. 1, CSL NW SW sec. 17-24n-66. S.D. 2,385 ft.; C.D.

Washakie County

Arlton & Doyle No. 1 Govt., SW SW SE sec. 29-48n-91w. T.D. 1,356 ft.; prep. to resume.

Weston County

Carl Kundy No. 3 Govt., CSL NW NW sec. 32-46n-63w. M.I.M. (first report).

MONTANA

Big Horn County

Big Horn O. & G. Co. No. 1, NW SW SE sec. 14-1s-33e. Drlg. 700 ft. (first report).
Hardin General Hospital No. 1, CNL NE SW sec. 23-1s-33e. Drlg. 670 ft. (first report).

Carbon County

Miracle Oil Co., No. 2 Govt., CWL NE SE sec. 3-6s-23e. T.D. 1,260 ft.; landed 8¼-in. at 1,250 ft.; fsg.

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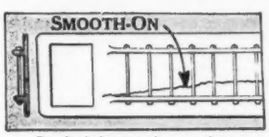
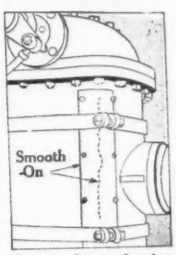
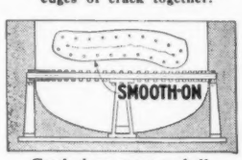
CRACK REPAIRS under PRESSURE



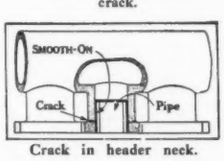
Cracked intercooler castings, showing bolts used to pull edges of crack together.



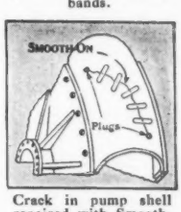
Steam chest showing patch and reinforcing bands.



Cracked evaporator shell. Repair patch covers crack.



Crack in header neck.



Crack in pump shell repaired with Smooth-On under straps.

SMOOTH-ON No. 1 tamped into the crack and allowed to harden, will stop the leakage, but where the repair may be strained by excessive vibration, pressure or alternate expansion and contraction, reinforcement with straps, patch plate or tie rods will assure permanency. Holes drilled at the ends of the cracks and sealed with threaded plugs will prevent the crack from lengthening. Where inside vacuum is available, small leaks can be stopped by painting Smooth-On over the leak, and utilizing the vacuum to draw the Smooth-On into and stop the leak.

Cracks in header Necks are easily sealed by grinding down a short length of pipe to fit inside the neck with ⅛-inch clearance space all around, and filling this with a soft putty of Smooth-On No. 1.

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Fallon County

Montana-Dakota Utilities Co. No. 3 Smith No. 1, Unit 8, C SE NW sec. 8-4n-62e. T.D. 6,811 ft.; will test before D.D.; not commercial at 6,750-65 ft.

Glacier County

The first completion of the year in the Cut Bank field was the Glacier Production Co. No. 1 Williams, C SW SE section 21-33n-5w, which swabbed 44 bbls. first 24 hours at a total depth of 2,937 feet. This well had an unusually good show of oil in the Sunburst sand at 2,843-2,902 feet, the oil rising 1,100 feet. After swabbing down, however, oil rose only 200 feet, having apparently been mudded off in part. The Cut Bank was at 2,918-33 feet.

Texas Co. No. 1 Stufft, C NW NW Lot 4, sec. 1-35n-6w. Drld. to 283 ft. and pulled in rig.
Santa Rita O. & G. Co. No. 1 Madison, CWL NW SW sec. 30-34n-5w. Bldg. rig.
Kately, Drumheller-Ward No. 5, C Lot 4, SE SE sec. 10-34n-6w. T.D. 2,770 ft.; fshg.
Wm. Hanlon, Agt., No. 2 All.-128, C NW SE sec. 12-32n-6w. Drlg. 825 ft.; cmtd. 10¾-in. at 590 ft.
Dakota-Montana Oil Co. No. 1 Tribal-136, C NE NE sec. 15-34n-6w. Drlg. 850 ft.
Wm. Hanlon, Agt., No. 2 All.-131, C Lot 9, SW NW sec. 7-32n-5w. Drlg. 1,850 ft.
Glacier Prod. Co. No. 1 Abraham, C SW SE sec. 19-34n-5w. Drlg. 2,660 ft.
Glacier Prod. Co. No. 5 Seeba, CWL NW NW sec. 2-34n-6w. Drlg. 2,820 ft.
Dr. Peter Potter No. 2 All.-125, NW NE NE sec. 12-32n-6w. Drlg. 995 ft.; Colo. 580 ft.; 10¾-in. 608 ft.
R. C. Tarrant No. 1 Kirst, C NW SW sec. 18-34n-5w. Drlg. 2,345 ft.

Judith Basin County

Fletcher E. Hunt No. 3, NW SE NE sec. 30-14n-15e. Drlg. 1,333 ft.

Petroleum County

O. B. Canfield No. 1 Govt., CEL SE NE sec. 21-17n-24e. Drlg. 770 ft.
H. C. Rowland No. 1 Kalispel, NE NE SE sec. 35-14n-25e. Drlg. 750 ft.

Pondera County

Gordon Campbell No. 1 Hughes, NW NE NW sec. 12-30n-4w. T.D. 2,494 ft.; fshg.

Toole County

First completion of the year in the Kevin-Sunburst field was W. M. Fulton No. 1 Thompson, NW SW NE section 28-35n-3w, which made 25 bbls. per day at 1,745 feet before acidizing.

W. S. Knight No. 1 Gunderson, SW SE NW sec. 9-35n-2w. Drlg. 1,000 ft.
A. E. Crumley No. 11-A Shaw, SE NW NE sec. 35-36n-2w. Skdg. rig from No. 11; hole lost.
A. Beardslee No. 5 Swears, CSL SE NW sec. 9-35n-2w. Drlg. 510 ft.

Yellowstone County

Broadview Dome Oil Co. No. 1, NE NE SW sec. 18-3n-23e. M.I. rot.
R. C. Tarrant No. 2 Sayre, NE NE SW sec. 26-3s-24e. M.I.M.
R. C. Tarrant No. 1 Kelly, SE SE NW sec. 26-3s-24e. Top sat. Dakota at 1,007 ft.; rng. 7-in.

UTAH

Emery County

Standard Oil Co. of California and Continental Oil Co. No. 1-A Palm, C NW NW sec. 27-23s-11e. T.D. 1,652 ft.; prep. to resume.

Grand County

Utah Southern Oil Co. No. 1 Hyde, SE NW NW sec. 33-22s-22e. Drlg. 6,558 ft. in Hermosa.
Columbia Crude Corp. No. 1 Rath, NW SW SE sec. 12-25s-20e. T.D. 2,045 ft.; trying to S.O. upper water and test.

NEBRASKA

Sioux County

J. M. Huber Corp. and United Producers, Inc., No. 1 Morgan, C SW SW sec. 32-35n-56w. T.D. 2,700 ft.; C.O. 2,675 ft.

Dawes County

Stephens Oil Corp. No. 1 Palmer, C NW SW sec. 1-33n-50w. Drlg. 1,838 ft.

Lincoln County

Smith & Wright No. 1 Hansen, C SW NW sec. 24-15n-31w. Drlg. below 1,200 ft., gr. sh.; strong O.&G. shows last 400 ft. in either Greenhorn or Carlisle; samples sent to Lincoln for correlation.

Oklahoma Fields

(Continued from Page 76)

19-2s-3w, drilling at 110 feet; Sun Oil Co. No. 4 Davis, SW NE SW section 23-2s-3w, an old well being deepened, drilling at 2,954 feet; Schermerhorn Oil Co. No. 37 fee, SE SW NW section 5-4s-3w, location; Shell Petroleum Corp. No. 20 Kirk, SE NE NW NE section 5-4s-3w, location; same company's No. 47 McClure, NE NE SW section 5-4s-3w, drilling at 50 feet; same company's No. 16 Horton, SW SE SW NE section 6-4s-3w, location; Rockland Oil Co. No. 55 Sarasota, SW SW NE NE section 23-4s-3w, drilling at 150 feet.

Garvin County

Cox & Hamon No. 1 Perry, SE SE SW section 32-1n-3w, Tussy field, Garvin County, had numerous oil horizons beginning at 2,420 feet and was completed at 3,219 feet, total depth. It pumped 165 bbls. of oil in 24 hours.

New operations in the Garvin County sector of the Tussy pool were as follows: Cox & Hamon No. 1 Dixon, NE SE NW section 32-1n-3w, location; Simpson & Fell No. 3 Derdypu, NW NW SE NW section 17-1n-3w, an old well, pulled liner and running casing; Magnolia Petroleum Co. No. 2-A Pernell, NW SE NE NE section 16-1n-3w, an old well, pulled liner and underreaming casing.

Choctaw County

Cooper & Branstetter No. 1 Bell, C NW NE section 29-6s-17, wildcat in Choctaw County, was temporarily abandoned at 1,151 feet, total depth.

Coal County

Ruwoldt & Couch No. 1 McMillan, SW cor. section 10-1s-8, wildcat in Coal County, had a hole full of sulfur water at 1,414 feet, total depth, and was dry and abandoned.

Muskogee County

Metzgar & Fultz No. 1 Swan, C E half NE SE section 7-14-19, Jolly-Patton area, Muskogee County, was a machine. M. S. Mussellem No. 1 Fluche, SE SE NW section 17-14-17, an old well, was cleaning out to deepen.

Lincoln County

Skelly Oil Co. No. 1 South Sporn, NE SE SE section 20-17-3e, Sporn area, northern Lincoln County, was a location. Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 1 Fox, SW SE NW section 21-17-3, and same operator's No. 1-A Sporn, SE NE SE section 20-17-3, were locations.

Caddo County

Magnolia Petroleum Co. No. 5 Sames, NW NW NE section 35-6-10w, Cement field, Caddo County, had pay sands at 5,159-74 feet; total depth, 5,372 feet; produced 7,720,000 feet of gas and was completed.

Ray Stephens No. 1 Tompson, SE SE NW section 27-6-10w, Cement area, had dug cellar and pits.

Stephens County

Mudge Oil Co. No. 11 Robberson, CNL SW SW section 10-3s-5w, Stephens County, had sand at 1,444-96 feet, total depth; pumped 12 bbls. of oil in 24 hours and was completed.

Helmerich & Payne and others No. 1-A Graham, SW SW NE section 12-1n-5w, one of the several deep wildcat tests in Stephens County, was dry and abandoned at 5,014 feet, total depth, in shale. It had a showing of oil in sands at 730-735 feet, 1,050-57 feet, 1,170-80 feet and 1,204-07 feet.

Crain & Rankin No. 2 Mayes, SW SE SW section 14-1n-9w, has been shut down for several months and was abandoned at 2,225 feet, total depth.

George L. Pace and others No. 14 Payne, NE SE NW NW section 28-2s-7w, had spudded.

Farlyn Oil Co. No. 40 Seay, NE SW SE section 3-7s-5w, Jefferson County, had oil sand at 1,173-93 feet, and was waiting on cement at 1,212 feet, total depth in shale.

Jackson County

Ace Gutowaky No. 1 Howard, SW SW NW section 10-3n-19w, wildcat in Jackson County, was a location. Gulf Oil Corp. No. 1 Southall, SW NW SW section 2-1n-20w, had dug cellar and pits. Burk Royalty Co. No. 5 Minor A, SW NE NE section 15-1n-20w, an old well being deepened, was drilling at 1,327 feet.

Kansas Developments

By
DAL DALRYMPLE

GRABER DISTRICT EXTENDED; NEW PAY IN DAVIDSON AREA

The Graber pool of McPherson County was extended one-fourth mile north at Derby Oil Co. No. 1 Arnold, SW NW section 16-21-1w. It topped Hunton lime at 3,317 feet and when water intruded at 3,348 feet, total depth, it was plugged back to 3,340 feet and acidized. On potential test it produced 405 bbls. of oil, with 255 bbls. of water. It is not thought there will be much, if any, drilling activity in the area immediately north of the No. 1 Arnold at this time, as there is a dry hole about one-half mile north.

The old Davidson pool of northeastern Barton County was given a new producing horizon at Sinclair Prairie Oil Co. No. 2 Davidson, NW SE SE section 4-15-11w. It filled up at the rate of 100 feet of oil an hour from sand and Conglomerate at 3,353½ feet, and continued to fill up while swabbing. Operators were preparing to put it on the pump.

Wildcat discovery wells were completed in Ellis and Stafford counties, and a wildcat extensioner was completed in the Geneseo district, Rice County.

Atlantic Refining Co. made its second large purchase in the Hauschild-Saxman area of Rice County during the week. The company bought two 80-acre leases in the prolific district from Hiram W. Lewis and J. H. Cromwell, Wichita operators, for a reported $150,000, plus $125,000 in oil payments. Two producing wells are located on the property and a third well is being drilled. The acreage includes the W half SW section 8-21-7w and W half SE section 6-21-7w. The Atlantic company also bought the interest of Sam Schneider, Hutchinson operator, in the W half SW section 6-21-7w and E half SE section 6-21-7w, for a reported $35,000. The company entered the area in January through the purchase of properties owned by L. E. Douglass and associates for $800,000.

The Bureau of Mines recommended a daily allowable for Kansas in April of 183,000 bbls. The bureau's recommendation for March was 178,000 bbls.

Russell County

The largest producer completed in the Trapp field, Russell County, was Shell Petroleum Corp. No. 8 Michaelis, SW SW NE section 31-15-13w. It topped Siliceous lime at 3,264 feet; total depth 3,268 feet; acidized with 2,000 gallons and made potential of 2,704 bbls. of oil.

W. I. Southern, Inc., No. 5 Boomhower, NE SW NW section 32-15-13w, made potential of 2,678 bbls. of oil after acidizing with 4,000 gallons. Top of Siliceous lime was 3,263 feet; total depth, 3,268 feet. Same operator's No. 4 Boomhower, SE SE NW section 32-15-13w, had Siliceous lime at 3,301 feet; was bottomed at 3,314 feet; acidized with 4,000 gallons and made potential of 1,307 bbls. of oil. Empire Oil & Refining Co. No. 1 Michaelis, C N half N half SE section 27-15-14w, topped Siliceous lime at 3,359 feet; total depth, 3,372 feet; was treated with 2,000 gallons of acid and pumped 161 bbls. of oil in 24 hours. It was reacidized with 3,000 gallons and made potential of 258 bbls. of oil, with 1 per cent water.

In the Fairport pool, Stanolind Oil & Gas Co. No. 3 Austin-Ashby, NW NE SW section 30-12-15w, had Granite Wash at 3,320 feet; hole full of water at 3,355-57 feet, total depth; plugged back to 3,317 feet, and made potential of 106 bbls. of oil, with 60 bbls. of water.

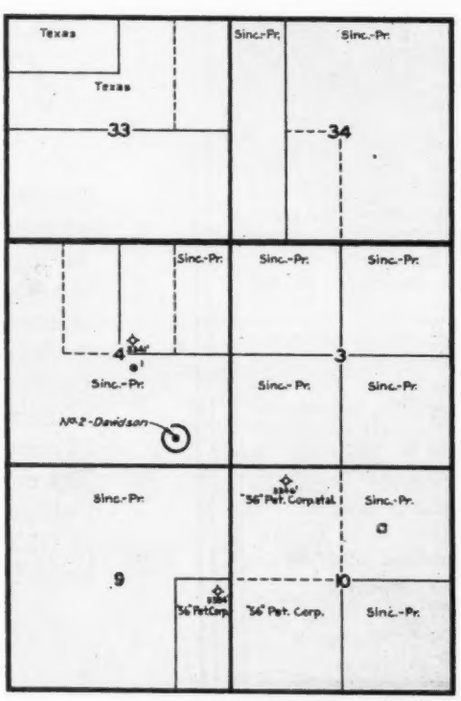
Empire Oil & Refining Co. No. 8 Ehrlich, SE SW SE section 28-13-14w, West Russell area, had Siliceous lime at 3,297 feet; was bottomed at 3,307 feet, and after treating with 3,000 gallons of acid, pumped 550 bbls. of oil, with 16 per cent water, and made potential of 749 bbls. of oil, with 3 per cent water.

Braden & McClure No. 1 Herbel, NE NE NW section 35-14-14w, South Gurney area, an old well, was deepened from 3,168 feet to 3,175 feet, made potential of 877 bbls. of oil and was recompleted.

New work in Russell County: Coralena Oil Co. No. 2 L. A. Sellens, C N half N half NW section 17-15-13w, moving in material; Empire Oil & Refining Co. No. 4 Sellens, NE NW SW section 30-15-13w, location; Phillips Petroleum Co. No. 8 Hoffman, SE NW SE section 31-15-13w, location; Gulf Oil Corp. No. 3 Michaelis, NE NW SW section 32-15-13w, building rotary rig; Skelly Oil Co. No. 4 John Neidens, NW NW SE section 32-15-13w, rigging up rotary; Empire Oil & Refining Co. No. 2 Bender A, SE NE NW section 26-15-14w, location.

Rice County

Six wells were completed in the Silica district, Rice County. Gulf Oil Corp. No. 12 Stolz, Jr., SW NE NW section 5-20-10w, topped Siliceous lime at 3,290 feet; total depth, 3,303 feet; swabbed 269 bbls. of oil in six hours; acidized with 1,000 gallons and made potential of 1,263 bbls. of oil, down 1½ hours. Same company's No. 5 Knop, SW NE NW section 33-19-10w, was bottomed at 3,290 feet, swabbed 72 bbls. of oil in four hours before acid treatment, and made potential of 1,114 bbls. of oil afterward. Top of Siliceous lime was 3,290 feet. Same company's No. 11 Stolz, SW NW NW section 32-19-10w, topped Siliceous lime at 3,275 feet; total depth, 3,292 feet; acidized with 1,000 gallons and 3,000 gallons, swabbed 202 bbls. of oil in six hours, and made potential of 559 bbls. of oil, with 2 per cent basic sediment.



—Mid-Continent Map Co., Wichita.

Sinclair Prairie Oil Co. No. 2 Davidson, section 4-16-11w, uncovered a new producing horizon in the old Davidson pool, northeast Barton County

J. H. Tatlock No. 8 Berscheit B, SE NE SW section 6-20-10w, pumped 160 bbls. of oil in four hours after topping Siliceous lime at 3,288 feet and stopping at 3,305 feet, total depth. Stanolind Oil & Gas Co. No. 12 Specht, NW NW SE section 6-20-10w, found Siliceous lime at 3,313 feet; was bottomed at 3,329 feet; acidized with 2,000 gallons and made potential of 1,083 bbls. of oil. Magnolia Petroleum Co. No. 5 Bayer, SE NW NW section 7-20-10w, was bottomed at 3,290 feet, with Siliceous lime topped at 3,282 feet. On potential test it pumped 625 bbls. of oil and 64 bbls. of water.

A wildcat extension well was completed in the Geneseo district at Continental Oil Co. and others No. 1 Michells, NE NE SW section 12-18-8w. It was bottomed at 3,212 feet, pumped 961 bbls. of oil in 18 hours and made potential of 1,241 bbls.

First reports of new work in Rice County follow: Bradley Oil Co. No. 8 Mitchell, NE SW SW section 32-19-10w, moving in material; Gulf Oil Corp. No. 6 Wendell, SW SW SE section 32-19-10w, rigging up rotary; same company's No. 7 Wendell, NE SW SE section 32-19-10w, building rotary rig; J. H. Tatlock No. 1 Poncin, NW NW NE section 5-20-10w, location; same operator's No. 2 Poncin, SW NW NE section 5-20-10w, location; same operator's No. 2 Beyer, SW NE NW section 7-20-10w, location; Stanolind Oil & Gas Co. No. 15 Specht, SW NE SE section 6-20-10w, location; Transwestern Oil Co. No. 1 West, SW SW NW section 17-20-10w, cellar.

Barton County

Yarnell & Carlson and others No. 3 Gemeinhardt, SE SE SW section 36-17-11w, Bloomer pool, Barton County, had Siliceous lime at 3,304-09 feet, total depth, and made potential of 1,086 bbls. of oil.

The Texas Co. No. 5 Morna, SW SE SW section 25-17-11w, topped Siliceous lime at 3,309 feet; had pay at 3,316-24 feet, total depth; acidized with 1,000 gallons and pumped 548 bbls. of oil in 24 hours. It was reacidized with 1,000 gallons and pumped 648 bbls. of oil, with 3 per cent water.

In the Barton County sector of the Silica pool, Hilligoss and others No. 7 Isern, SE NE NE section 12-20-11w, found Siliceous lime at 3,286 feet; total depth, 3,312 feet; pumped 1,350 bbls. of oil in 19 hours; acidized with 1,000 gallons and made potential of 1,730 bbls.

Stanolind Oil & Gas Co. No. 2 Burmeister, NE NE SW section 33-19-11w, wildcat, topped Kansas City lime at 3,075 feet; Conglomerate, 3,315 feet; Siliceous lime, 3,324 feet; acidized with 1,000 gal-

lons and 2,000 gallons at 3,342 feet, and bailed 1½ bbls. of oil and one-half bbl. of water an hour; was deepened to 3,363 feet, total depth, and was dry and abandoned.

The following new work in Barton County was reported: Empire Oil & Refining Co. No. 2 Demel, C E half E half SW section 9-16-13w, Susank area, location; Spencer & Yarnell No. 4 Patzner, NE NE SE section 36-17-11w, Bloomer area, moving in material; C. H. Weaver and others No. 1 Stumps, NE cor. section 3-17-12w, wildcat, moving in material; Morgan & Flynn and others No. 1 Essemiller, SE SE NE section 16-19-14w, Heizer sector, cellar; Indian Territory Illuminating Oil Co. No. 3 Peter, SE SE NW section 24-20-11w, Peter pool, cellar.

Ellsworth County

Continental Oil Co. and Empire Oil & Refining Co. No. 2 Rolfs, SE SE NW section 34-17-8w, Edwards area, Ellsworth County, topped Siliceous lime at 3,211 feet; was bottomed at 3,240 feet; acidized with 4,000 gallons and made potential of 563 bbls. of oil.

New work in Ellsworth County: Orville Lee No. 1 Larkin, NW cor. section 15-16-8w, wildcat, building rig; Empire Oil & Refining Co. No. 13 Rolfs, SE NW NE section 14-17-9w, an old well in the Lorraine area, rigging up to deepen; Carter Oil Co. and others No. 2 Georgia, NE SE SE section 27-17-9w, moving in material; same operator's No. 4 Elizabeth, SE SE NE section 34-17-9w, location.

Reno County

Barnsdall Oil Co. No. 1 Westfall B, NE NE SE section 19-24-4w, Burrton field, Reno County, topped Chat at 3,327 feet; total depth, 3,387 feet; acidized with 1,500 gallons and made potential of 715 bbls. of oil.

The Texas Co. No. 9 Collins, C S half N half SE section 17-24-4w, had Chat at 3,303 feet; was bottomed at 3,377 feet; acidized with 1,000 gallons and swabbed and flowed 159 bbls. of oil in 24 hours; re-treated with 3,000 gallons of acid, swabbed and flowed 250 bbls. of oil in 18 hours, and later made potential of 230 bbls. of oil, with 42 bbls. of water. Gulf Oil Corp. No. 2-SW Myers, NW SW NW section 3-24-4w, topped LaMotte sand at 4,450 feet, and was completed as a water disposal well at 4,772 feet, total depth. Shell Petroleum Corp. No. 1 Ratzlaff, SE SW SE section 2-23-4w, an old well, was plugged back from 3,609 feet, total depth, to 3,397 feet, perforated casing, water intruded and it was temporarily abandoned.

In the Lerado field, Ohio Oil Co. No. 3 Lawson, NW NE NW section 15-26-9w, topped Viola lime at 4,152 feet; was bottomed at 4,159 feet; acidized with 4,000 gallons, pumped 246 bbls. of oil in six hours and made potential of 936 bbls.

Earl Wakefield and Shell Petroleum Corp. No. 1 Yoder, SW cor. section 34-24-5w, wildcat, topped Kansas City lime at 2,678 feet; Chat, 3,423 feet; had a showing of gas at 3,433-45 feet; showing of oil and gas at 3,450-55 feet, but water intruded at 3,461-63 feet, total depth, and it was dry and abandoned.

Helmerich & Payne and others No. 1 Evans, NE NE SE section 29-24-6w, wildcat, was an abandoned location.

New work reported in Reno County for the first time was as follows: Ledo Oil Co. No. 4 Neufeldt, SW NE NW section 12-23-4w, set 12-inch casing at 280 feet and waiting on cement; Barnsdall Oil Co. No. 4 Westfall A, NW NW SE section 19-24-4w, building rotary rig; same company's No. 5 Westfall A, NE NW SE section 19-24-4w, rotary rig; same company's No. 3 Westfall B, NW NE SE section 19-24-4w, rotary rig; Sinclair Prairie Oil Co. No. 1 Nett, NW NW SE section 32-26-4w, wildcat, location.

Ellis County

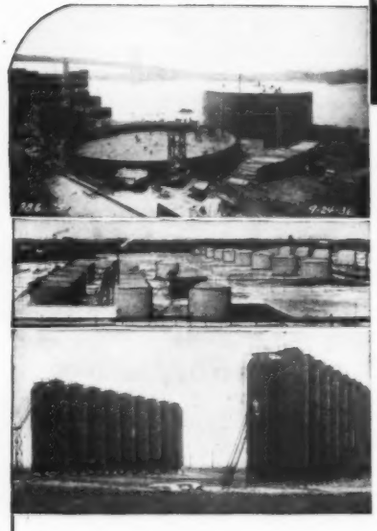
Lario Oil & Gas Co. and others No. 1 Cress, NE cor. section 13-11-17w, wildcat pool opener in Ellis County, topped Siliceous lime at 3,293 feet, corrected; total depth, 3,302½ feet; pumped 1,208 bbls. of oil in 14 hours, pumping 85 bbls. the first hour and 104 bbls. the last hour, and made potential of 2,362 bbls. The oil was 35.1 gravity at 60 degrees. It topped anhydrite at 965 feet; Topeka, 2,655 feet; Dodge, 2,925 feet; Kansas City lime, 2,962 feet; Conglomerate, 3,235 feet; Simpson, 3,255 feet.

Two new operations in the Cress area were reported. Gulf Oil Corp. No. 1 Cress, SE cor. section 12-11-17w, north offset to the Lario company's discovery well, was moving in material. Sinclair Prairie Oil Co. No. 1 Romine, SW cor. section 7-11-16w, northeast offset to the discovery well, was a location.

Other new work in Ellis County: Ryan Consolidated Corp. No. 3 Bemis B, SE SW NW section 22-11-17w, Bewis pool, cellar; same operator's No. 4 Bemis B, SW SE NW section 22-11-17w, location; Phillips Petroleum Co. and others No. 2 Bertha, NE NE SE section 5-12-17w, Shutts area, moving in material; Gulf Oil Corp. No. 3 Swires, SE SE SW section 8-15-18w, Ruder area, building rotary rig; Bridgeport Machine Co. No. 2 Madden Estate, C NW NW section 26-15-18w, Madden pool, rigging up.

Stafford County

A discovery wildcat was completed in Stafford County at Empire Oil & Refining Co., Atlantic Refining Co. and John Powell No. 1 Jordon, SW SW NW section 15-25-14w. It topped Kansas City lime at 3,638 feet; found oil in pay at 3,722-27 feet, and made potential of 270 bbls. of oil naturally, with 70 bbls. of water. After acidizing with 2,000 gallons, it made potential of 575 bbls. It was deepened to Viola lime at 4,125 feet; Simpson, 4,210 feet; Siliceous lime, 4,252 feet; and sulfur water appeared at 4,267 feet, total depth. It was



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The OIL AND GAS JOURNAL

plugged back to 3,840 feet; acidized and swabbed 42 bbls. of oil in 10 minutes. It flowed 1,649 bbls. of oil in 17 hours, cutting 1 to 6 per cent water; and made potential of 2,035 bbls. of oil, with 1 to 6 per cent water.

Lario Oil & Gas Co. and Atlantic Refining Co. No. 2 Morgan, C N half N half SE section 23-24-13w, St. John area, had Siliceous lime at 4,065-75 feet, total depth, and made potential of 1,444 bbls. of oil.

The Empire and Atlantic companies were moving in material at No. 1 Neeland, SE SE NE section 16-25-14w, west offset to the Jordan discovery well. Lario Oil & Gas Co. and Atlantic Refining Co. No. 3 Morgan, C W half W half SE section 23-24-13w, set 12-inch casing at 255 feet. Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 2 Elwell, C S half S half NE section 23-24-13w, was a location.

Estimated Daily Production

Estimated daily average production of Kansas for the week ending March 27, and for the preceding week, was as follows:

	Barrels	
	Mar. 27	Mar. 20
Oxford City	2,725	2,700
Burrton	16,225	16,725
Ritz-Canton	5,450	5,400
Graber	3,125	2,300
Hollow-Nikkel	4,125	4,075
Voshell	2,950	2,975
Wellington	2,875	2,825
Ellsworth County:		
Lorraine-South Lorraine	5,000	5,700
Other pools	1,258	1,105
Rice-Barton counties:		
Bloomer	3,243	2,750
Chase	9,170	8,250
Geneseo	2,860	2,175
Raymond	2,455	3,150
Silica	19,025	18,000
Keesling	2,095	2,275
Hauschild	2,720	3,325
Miscellaneous Rice	6,738	7,495
Miscellaneous Barton	6,437	5,530
Russell County		
Fairport	2,550	2,715
Gorham-E. Gorham	3,130	3,350
Russell	2,705	3,660
Sullivan	4,110	5,515
Trapp	7,030	6,005
Miscellaneous Russell	5,025	6,220
Sedgwick County:		
Valley Center	1,320	1,310
Greenwich	1,305	1,285
Miscellaneous Sedgwick	2,200	2,135
Ellis County:		
Bemis	3,800	4,100
Miscellaneous Ellis	1,515	1,830
Kingman County	686	845
Stafford County	2,853	2,910
Greenwood County	9,250	9,250
Butler County	17,600	17,800
Other fields	23,095	22,640
Total Kansas	186,650	188,325

Butler County

George Siefkin and others No. 1-A Alexander, NE NW SW NE section 15-28-4, an old well in the Augusta area, Butler County, skidded rig 20 feet west, drilled to 2,130 feet, total depth, and was dry and abandoned.

Sid Neff and others No. 1 Church, SW NE SE section 8-28-5, an old Butler County wildcat being deepened, was drilling at 785 feet. Sheldon & Wixson and others No. 1 Dohran, NW SW NE section 11-25-3, was rigging up machine.

McPherson County

Hutchinson Oil & Gas Co. No. 1 Thomas, SW NE SW section 26-19-2w, McPherson County, was an abandoned location.

Shell Petroleum Corp. No. 2 Lindberg, C NE NE section 15-19-2w, Ritz-Canton area, was a rotary rig.

Woodson County

B & B Oil Co. No. 1-A Corkery, C N half NW NW section 29-25-14, Quincy area, Woodson County, had sand at 1,389 feet; was bottomed at 1,440 feet, and pumped and flowed 250 bbls. of oil in 24 hours.

F. A. Gillespie & Sons No. 1 Hogueland, SE SW NE section 3-24-15, topped lime at 1,466 feet; total depth, 1,488 feet; acidized with 3,000 gallons, pumped 50 bbls. of oil and 100 bbls. of water; cleaned out and was completed as a 12-bbl. pumper.

Three new tests were reported in Woodson County. Saco Oil Co. No. 4 Klick, C S half SW SW section 20-25-14, was a location. C. L. Sheedy and others No. 5 Lee, SE SW NE section 28-25-14, was drilling at 300 feet. Hyde and others No. 1 Murphy, SE NE NE section 30-25-14, was rigging up machine.

Coffey County

P. H. Hart No. 6 Hanna, C E half NW SW section 11-23-13, North Virgil area, Coffey County, topped lime at 1,769 feet; was bottomed at 1,799 feet; treated with 2,000 gallons of acid and flowed 50 bbls. of oil in 24 hours.

Cowley County

Another large producer was completed in the Weathered pool, Cowley County, at No. 3 McKinley B, SE SE NW section 33-31-3e. It had Siliceous lime at 3,248-69 feet, total depth, and made potential of 2,730 bbls. of oil.

Bess & Gralapp and others No. 1 Wakefield, NE SE SW section 18-30-6, Cowley County wildcat, was moving in material. Aylward Production Co. No. 1 Atkinson, NW NW SE section 21-32-5, was moving in material. E. B. Shawver No. 1 Brewer, NE SW SE section 5-34-3, was a rotary rig.

Greenwood County

T. K. Simmons and Amerada Petroleum Corp. No. 4 Ellis B, SE SE NE section 27-23-11, Hamilton pool, was the only Greenwood County completion. It had sand at 1,890-1,950 feet; total depth, 1,955 feet; plugged back to 1,950 feet, shot and was completed as a 40-bbl. well.

New work in Greenwood County: Shaffer & Howell No. 17 Schneider, NW SE NW section 15-23-13, drilling at 213 feet; Mid-Continent Petroleum Corp. No. 10 Dehlinger A, SW SW NE section 28-23-13, moving in machine; Spencer No. 1 Wahl, C S half SW SW section 32-23-13, location; Shull Drilling Co. No. 1 Cannon, NE SE NE section 23-25-12, wildcat, rigging up machine; Dr. Shippey No. 1 Boone, NE NE NW section 21-26-12, an old wildcat being deepened, drilling at 1,637 feet.

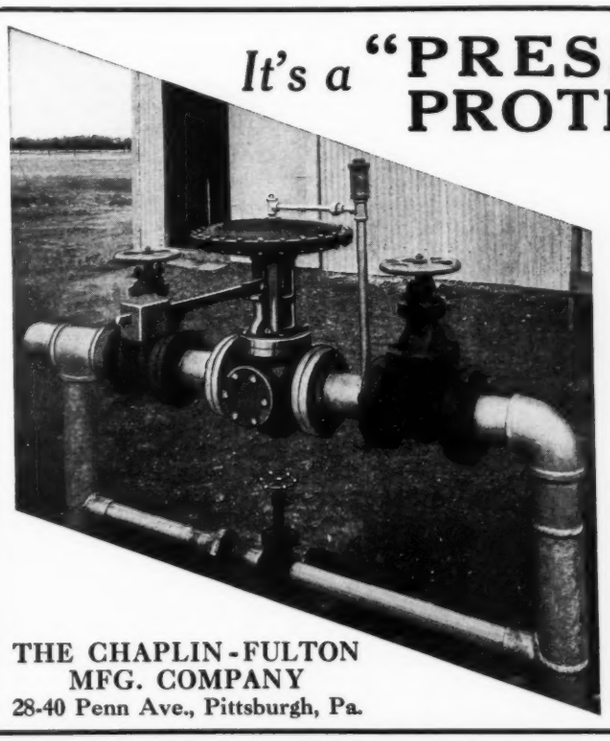
Sumner County

C. H. Westfall and others No. 1 Rogers, SW NW SW section 35-31-2w, wildcat in Sumner County, topped Howard at 1,950 feet; Topeka, 2,070 feet; Kansas City, 3,155 feet; Chat, 3,817 feet; Wilcox sand, 4,247½ feet; Siliceous lime, 4,353 feet, and was dry and abandoned at 4,406 feet, total depth.

Various First Reports

Miscellaneous new work reported in Kansas was as follows:

In Rush County, Sinclair Prairie Oil Co. No. 1 Scheuerman, SE SE NE section 5-18-16w, building rotary rig; Carter Oil Co. No. 2 Woodward, SW SW SE section 23-18-16w, location; Morgan &



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Flynn and others No. 1 Schroeder, NE cor. section 26-18-16w, location.

Patton & Paul No. 1 Lank, SE SE SW section 35-18-21w, wildcat in Ness County, was a location.

Watchorn Oil & Gas Co. No. 2 Lemke, SE NE SW section 15-11-23w, Wakeeney area, Trego County, was a location.

In Rooks County, Green Oil Co. No. 1 McCullough, NE NE NW section 35-10-19w, Zurich area, was a rig.

E. J. Shaffer and others No. 1 Epp, SE cor. section 15-23-3w, was a location for a wildcat in Harvey County.

Olson Drilling Co. and others were moving in material at No. 1 Whelan, SW cor. section 29-31-11w, Barber County. This is the first test to be started by the Olson company in Barber County since it acquired an interest in the Vaccars Corp. block in the Whelan area.

Davis & Sory No. 1 Byrd, SW SW SE section 32-21-11, wildcat in Lyon County, was rigging up machine.

In Stevens County, United Production Co. No. 1 Young, C SW section 5-31-34w, was a location; Southwestern Oil & Gas Co. No. 1 Spikes, C SW section 4-34-37w, location; Missouri Valley Gas Corp. No. 1 Gustafson, C SW section 29-32-38w, location; Southwestern Oil & Gas Co. No. 1 Slease, C E half section 35-33-39w, location.

Grant County

A new gas area was opened in Grant County at Columbia Fuel Co. No. 1 Gray, wildcat in C SE section 3-29-35w. It was bottomed at 2,760 feet, and after shooting with 40 quarts at 2,710-60 feet, it produced 5,000,000 feet of gas.

West Texas Fields

(Continued from Page 73)

Cowden, 4,110-4,332 feet, acidized, 561 bbls. through 1-inch choke.

Crane County

Superior Oil Co. No. 2 Hughes, 2,245-52 feet, acidized, 618 bbls. on pump. Moore Brothers No. 1 Barnsley, dry and abandoned 6,829 feet, elevation 2,472 feet, top Simpson, 6,268 feet.

Fisher County

General Crude Oil Co. No. 8 B. F. Willingham, 3,106-21 feet, 127 bbls. on pump, acidized.

Glasscock County

Continental Oil Co. No. 26-S Settles, 1,200-40 feet, 545 bbls. on pump.

Howard County

Ambassador Oil Co. No. 1 Read, dry and abandoned 3,258 feet. Ennisbrook Oil Co. No. 13 Texas Land & Mortgage Co., 2,435-2,796 feet, shot, 90 bbls. on pump. Illinois Oil Co. No. 7-B Davis, 2,510-2,840 feet, shot, 829 bbls. on pump.

Pecos County

Ohio Oil Co. No. 11-D Yates, 1,113-90 feet, 100 bbls. per hour.

Upton County

Cardinal Oil Co. No. 2-A Cordova-Union, 2,205-28 feet, acidized, 631 bbls. on pump in 17½ hours. Gulf Oil Corp. No. 4 Rogers, 2,355-88 feet, acidized, 562 bbls. on pump; No. 8 Sherk, 2,215-2,320 feet, acidized, 618 bbls. on pump; No. 8-E Sherk, 2,282-2,330 feet, acidized, 218 bbls. oil and 210 bbls. water on pump. Texas Pacific Coal & Oil Co. No. 26-A Lane, 2,020-35 feet, acidized, 604 bbls. on pump. Weekly Oil Corp. No. 1 Cordova-Union, dry and abandoned 2,082 feet.

Ward County

Bentley & Massey No. 1-B Boogher, 2,153-2,210 feet, 158 bbls. Eastland Oil Co. No. 6 Hathaway, 2,425-2,649 feet, shot, 7,752 bbls. Gulf Oil Corp. No. 13 Estes, 2,490-2,620 feet, 1,192 bbls.; No. 68 Hutchins, 2,661-2,760 feet, shot, 1,096 bbls.; No. 69 Hutchins, 2,539-2,752 feet, shot, 1,217 bbls.; No. 70 Hutchins, 2,540-2,748 feet, shot, 1,023 bbls.; No. 71 Hutchins, 2,515-2,741 feet, shot, 1,132 bbls. Republic Production Co. No. 7 Fox, dry and abandoned, 2,290 feet; No. 8 Fox, dry and abandoned, 3,459 feet. Shell Petroleum Corp. No. 8 Owens, 2,446-3,030 feet, acidized, 244 bbls. oil and 3 bbls. water per day. Standard of Texas No. 46 Durgin, 2,444-2,530 feet, shot, 368 bbls. through 1¼-inch choke. Stanolind Oil & Gas Co. No. 5 Martin, 2,934-37 feet, 155 bbls. oil and 70 bbls. water on pump; No. 3 Martin, 2,475-2,582 feet, shot, 38 bbls. Texas Pacific Coal & Oil Co. No. 9 Barker, 2,234-2,400 feet, shot, 789 bbls. Tide Water Associated No. 11 Johnson, 2,520-2,631 feet, shot, 2,916 bbls.; No. 12 Johnson, 2,501-2,624 feet, shot, 1,080 bbls.; No. 14 Johnson, 2,472-2,642 feet, shot, 3,240 bbls. Wood & Schkade No. 1 Boogher, dry and abandoned 2,560 feet.

Winkler County

Adams & Bradley No. 5 W. P. Edwards, 3,012-3,188 feet, plugged back to 3,182 feet, acidized, 93 bbls. Harry Adams and others No. 3 Sealy, 3,084-3,142 feet, plugged back to 3,133 feet, shot, 590 bbls. Atlantic Refining Co. No. 3-D Leck, 3,015-70 feet, 2,008 bbls. Atlantic and others No. 5-E Leck, 3,005-70 feet, 709 bbls. Gulf Oil Corp. No. 23 Daugherty, 2,846-3,000 feet, 1,413 bbls. Humble Oil & Refining Co. No. 2 McCutcheon, 2,800-3,020 feet, shot, 1,007 bbls. Illinois Oil Co. No. 10-B Central State Bank of Abilene, 2,840-3,130 feet, shot, 1,312 bbls. Magnolia Petroleum Co. No. 64 Walton, 2,785-2,992 feet, shot, 410 bbls. Monday Oil Co. No. 13 Central State Bank of Abilene, 2,780-2,989 feet, shot, 1,092 bbls.; No. 14 Central State Bank of Abilene, 2,780-2,993 feet, 996 bbls. Navarro Oil Co. No. 3 Crenshaw, 2,760-3,130 feet, shot, 1,387 bbls. Shell Petroleum Corp. No. 8-L Hendricks, 2,785-3,079 feet, shot, 462 bbls. Sinclair Prairie Oil Co. No. 2-C Cummins, 2,860-3,050 feet, shot, 495 bbls. Tide Water Associated No. 13 Walton, 2,750-2,950 feet, shot, 945 bbls. W. K. Royalty Co. No. 4-B Walton, 3,025-43 feet, 3,513 bbls.

PANHANDLE COMPLETIONS

Gray County

British American Oil Co. No. 1 Smith, 3,190-3,240 feet, shot, 581 bbls. on pump. Texas Co. No. 11 Harrah, 3,120-3,240 feet, shot, 528 bbls. on pump.

Hutchinson County

Phillips Petroleum Co. No. 17 Cockrell Ranch, 3,005-78 feet, shot, 736 bbls on pump. Skelly Oil Co. No. 1 Henry Yake, 2,640-2,965 feet, plugged back to 2,778 feet, shot, 18,555,000 feet gas. Stanolind Oil & Gas Co. No. 3-A Haile, 3,054-76 feet, shot, 365 bbls. on pump. Turman and Plains Petroleum Co. No. 5-B Whittenburg, 2,674-2,726 feet, shot, 794 bbls. on pump; No. 10 Whittenburg, 2,839-58 feet, shot, 528 bbls. on pump.

CENTRAL TEXAS COMPLETIONS

Eastland County

Hickok Production & Development Co. No. 2 City of Cisco, 4,030 feet, dry and abandoned.

Jones County

Sinclair Prairie Oil Co. No. 3-B King, lime oil 2,206-09 feet, 683 bbls. in 12 hours, flowing. Ungren & Frazier No. 1 Sellers, 2,012 feet, dry and abandoned. Hugh King, Jr. No. 1 Harris, southeast edge of Nugent, 2,205 feet, dry and abandoned.

Palo Pinto County

Hickok Production & Development Co. No. 3 Robinson & Collett, 1,531 feet, dry and abandoned.

Shackelford County

W. E. Butler No. 12 Morris, 1,590-1,606 feet, 150 bbls. R. F. Gilman No. 1 McKelvey, 1,200 feet, dry and abandoned. Iron Mountain Oil Co. No. 1 Ivy, northwest corner of county, 1,990 feet, dry and abandoned. Roeser & Pendleton No. 21 Dawson & Conway, 1,592-1,606 feet, 125 bbls.

NORTH TEXAS COMPLETIONS

Archer County

Golding & Cochran No. 8 Jeske, 1,175-89 feet, 25 bbls.; No. 1 School lot, 1,183-1,200 feet, 25 bbls. J. A. Selph No. 1 G. Symank, 1,431 feet, dry. J. G. Steele No. 1 G. A. Key, 1,504 feet, dry. United Production Co. No. 1 J. J. Speer, 800 feet, dry. Van Wormer and others No. 3 Falls County, 1,165-77 feet, 25 bbls.

Baylor County

W. J. Grisham No. 1 W. H. Portwood, 1,450 feet, dry.

Cooke County

The Texas Co. No. 1 J. W. Hess, 936-48 feet, 10 bbls.

Jack County

Cato Oil Co. No. 2 Raley B, 2,990-3,060 feet, 550 bbls. S. B. Edwards No. 1 S. F. Williams, 3,555 feet, dry. Gillispie & Perrin No. 3, L. J. Hester, 2,903-3,025 feet, 100 bbls. Hammond Petroleum Co. No. 5 Kuykendall, 3,004-33 feet, 50 bbls. Hill & Hill No. 3 S. M. Jones, 2,957-3,036 feet, 130 bbls. Tom C. Patton, Inc., No. 1 J. M. Taylor, 2,957-3,035 feet, 75 bbls. O. J. Perrin No. 6 Clayton, 2,960-3,025 feet, 500 bbls. White & Duncan No. 1 Cecil Webb, 652 feet, dry.

Wichita County

Bridwell Oil Co. No. 3 W. B. Honaker, 997-1,060 feet, 25 bbls. L. T. Burns No. 19 J. L. and T. J. Waggoner, 1,540 feet, dry. C. W. Clark and others No. 8 Allen B, 1-217-25 feet, 10 bbls. Coleman & Coppock No. 8 Hoge, 843-53 feet, 10 bbls. C. R. Conyers No. 1 Jennings, 1,735 feet, junked. Fresno Oil Co. No. 27 Ramming, 1,194-1,215 feet, 10 bbls. King Oil Co. No. 1 Burnett and others B, 2,003 feet, dry.

King Oil Co. No. 16 Waggoner H, 1,558-66 feet, 35 bbls.; No. 2 Waggoner R, 1,404-25 feet, 35 bbls. W. B. Omohundro No. 5 S. P. Gibson B, 1,908-18 feet, 50 bbls. H. L. Rugeley No. 13 Waggoner, 1,948-75 feet, 145 bbls. A. B. Wharton No. 7 Waggoner B, 1,986-97 feet, 20 bbls.

Wilbarger County

Peery Oil Co. No. 1 J. C. King, 2,162 feet, dry.

Young County

Paul Atchley No. 1 B. F. Haygood, 1,005 feet, dry. Dick Duncan No. 1 J. P. Atchley, 1,035 feet, dry. A. Kriss No. 1 Belknap, 707 feet, dry. R. H. Vise No. 1 Norton Props., 3,760-3,856 feet, 2,100 bbls. D. L. Wolf No. 1 M. Bernhardt, 965 feet, dry Worth Oil Co. No. 19 Cullers, 605 feet, dry.

East Texas Fields

(Continued from Page 77)

49-A Plowman, 3,647-97 feet, 60 bbls. per hour. P. G. Lake, Inc., No. 6-A Lee, 3,771-73 feet, 45 bbls. in 45 minutes. Magnolia Petroleum Co. No. 10 Alex Perkins, 3,600-21 feet, 10 bbls. in 15 minutes. Ohio Oil Co. No. 41 Moores, 3,652-3,720 feet, 36 bbls. per hour. Ortiz Oil Co. No. 10 Hale, 3,614-50 feet, 20 bbls. in four hours on pump. Texas Co. No. 6 C. Hanna, 3,642-50 feet, 10 bbls. in 20 minutes.

Smith County

Wheelis Oil Corp. No. 14 Smith 3,698-99 feet, 20 bbls. in 15 minutes.

Upshur County

Day & Co. No. 8 Victory, 3,626-27 feet, 40 bbls. per hour. E. P. Pewitt No. 1 H. B. Owens, 3,735-36 feet, 40 bbls. per hour. Stanolind Oil & Gas Co. and United East & West No. 45 O'Byrne, 3,625-32 feet, 30 bbls. per hour. Vierson Oil Co. No. 7 Victory, 3,632-44 feet, 70 bbls. per hour. J. K. Wadley No. 2-B Gillespie, 3,718-47 feet, 10 bbls. per hour.

California Field Report

By
L. P. STOCKMAN

INCREASE APRIL ALLOWABLE; NEW POOL IN NEWHALL AREA

LOS ANGELES, Calif., Mar. 29.—The Central Committee of California Oil Producers at a meeting in Los Angeles March 25 increased California's crude oil quota from 551,000 bbls. to 603,000 bbls. per day effective April 1. The increase to be made in the April quota will be allocated to fields and pools in proportion to the amount of curtailment effected during March. The net quota for the month of April, excluding a reserve amount to absorb the production of new wells completed during April, is 600,983 bbls. per day. San Joaquin Valley fields have been assigned a daily quota of 283,274 bbls., which represent an increase in daily production for the month of 19,444 bbls. The coastal district has been assigned a daily quota of 65,615 bbls. and Los Angeles Basin fields, 252,094 bbls., representing increases of 9,665 bbls. and 14,521 bbls. respectively. These new quotas will be subject to slight revision when effect is given to March production and the resulting breakdown by the umpire's engineering committee.

The increase of 43,630 bbls. in allowable daily production for April was larger than anticipated. Gasoline stocks increased 907,992 bbls. during February, the latest available record, along with an increase of 166,155 bbls. in natural gasoline and 29,517 bbls. in stocks of naphtha distillates during the same period. Heavy crude and refinery residuum and stocks of gas oil and diesel were reduced 1,098,693 bbls. in February. Light refining crude declined 30,652 bbls., and all other remaining commodities were down 436,636 bbls., which gave the Pacific Coast territory a net reduction in all crude and refined oil stocks of 461,815 bbls. This reduction was effected during a period in which crude oil production averaged 589,837 bbls. per day.

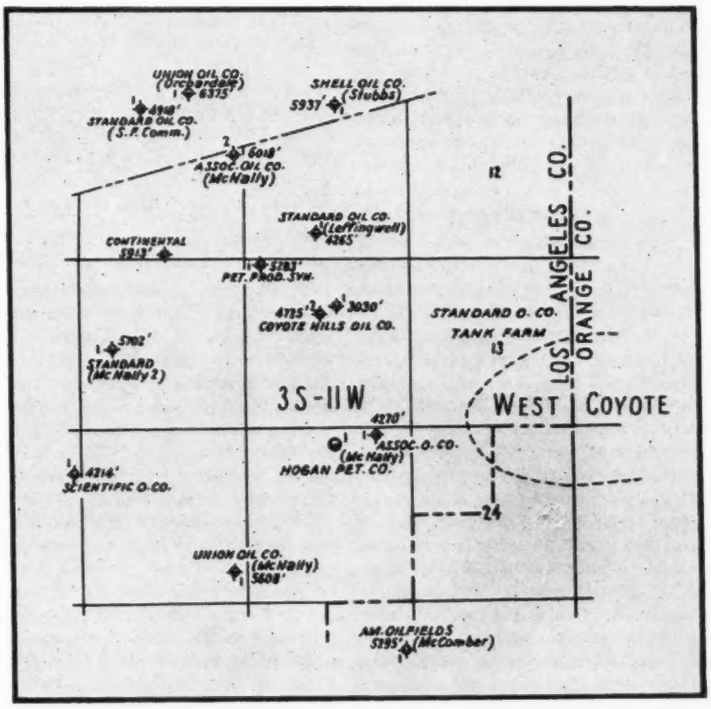
New Field

Barnsdall Oil Co. has opened a new field in the Newhall-Saugus area of Los Angeles Basin by completing No. 1 Rancho San Francisco, in section 26-4-17, flowing 350 bbls. of relatively clean 36.2 gravity oil and 2,000,000 feet of gas per day from 6,472 feet. It was finished with an 8⅝-inch water string landed at 6,160 feet and a 4¾-inch liner carrying 318 feet of perforated. The well, which is in the center of a 4,100-acre block, is producing from rocks of Miocene age.

Wilmington

General Petroleum Corp., in the Wilmington field of Los Angeles Basin, has finished three new wells. On the Eubank property No. 2 flowed 431 bbls. of 19.8-gravity oil per day from 3,600 feet, and No. 4 220 bbls. initially from 3,622 feet. General Petroleum Corp. No. 1 Flint tanked 478 bbls. in 24 hours following completion, but is showing an increasing tendency and may ultimately show a much larger flow. Due to sand trouble, operators in the Wilmington field usually bring in new wells gradually and consequently maximum production in many cases is not recorded until several days subsequent to completion. No. 1 Flint was bottomed at 3,560 feet and finished with an 8⅝-inch combination string containing 456 feet of perforated and which was cemented through perforations at 3,100 feet.

In order to develop the Ford lease in the Wilmington field, General Petroleum Corp. has found it necessary to whipstock the first several wells under the assembly plant of the Ford Motor Co. Directional drilling under ordinary conditions has been perfected to such an extent that it is possible to place the bottom of a well at a predetermined point, but in the case in question it is necessary to protect a first oil sand and bottom the well in a second productive horizon in a vertical depth within 3,600 feet. General Petroleum has a very competent engineering and field department and, while minor mechanical difficulties may arise from time to time, this engineering skill and drilling technique will prevail in the final analysis. The Royalty Service Corp. added another new well to its list of producers in the Wilmington field by completing No. 22-7, flowing 458 bbls. of 19.7-gravity oil per day from 3,592 feet. V. R. G. Wilbur No. 1 Mutual was completed, pumping 124 bbls. initially from 3,593 feet, but is expected to show an increase in production after the well has been on the beam for a few days longer. No. 1 Silveria of Selegna Associates, Inc., has been completed, flowing 640 bbls. per day from 3,588 feet. Drilling operations continue to show a consistent increase in the Wilmington field and a further gain is anticipated. Union Pacific Railroad has four wells under way and rigs going in for nine more. Tentative plans call for drilling 23 new wells on acreage of Union Pacific and this first group will be followed by another large group within a short time. The company has appropriated enough to justify the immediate drilling of 20 wells. General Petroleum Corp., Bankline Oil Co., Pacific Western, Royalty Service Corp. and A. T. Jergins Trust all contemplate aggressive development of their respective properties.



Hogan Petroleum Co., discoverer of Mountain View field, has started an outpost approximately 1 mile west of the West Coyote field of Los Angeles Basin

El Segundo

The Texas Co. in the El Segundo field of Los Angeles Basin completed No. 1 Security, flowing 3,720 bbls. of clean 27.3 gravity oil and 4,000,000 feet of gas per day from 7,253 feet. It is the largest well completed in the El Segundo field since its discovery by Republic Petroleum Co. in 1935.

Republic Petroleum Co., which holds a lease between Richfield Oil Corp.'s El Segundo lease and the Texas Co.'s Security lease, has staked location for a first line offset to the latter's new well and rig material is expected to be placed on ground within a few days. Republic Petroleum's No. 5 El Segundo, which is being prepared for an early production test, has been bottomed at 7,383 feet and should show satisfactory production, as the well has 95 feet of formation from which to produce. Top of the oil sand was logged at 7,273 feet and top of the Schist at 7,368 feet. The upper few feet of Schist was broken up and was contaminated with oil.

In addition to completion of No. 1 Security, two small wells were completed during the week, Richfield Oil Corp. No. 4 El Segundo, flowing by heads at the rate of 150 bbls. per day from 7,535 feet, and Caminol Co. No. 2 El Segundo, finished on a compressor, doing 70 bbls. per day from 7,310 feet.

Gato Ridge

The O. C. Field Gasoline Corp. extended the proven limits of the Gato Ridge field of Santa Barbara County 3,000 feet north by completing No. 1 Continental in section 4-8-32, pumping 510 bbls. of 15.4-gravity oil daily from 3,380 feet. It was finished with a 10¾-inch water string landed at 2,900 feet and 650 feet of 5-inch perforated liner. Completion of No. 1 Continental is expected to stimulate development work by Moyle Petroleum, Barnsdall, Stewart-Carter Oil Co. and the Petrol Corp. Apache Oil Co. is building road to the site of a well to be drilled in section 8-8-33.

Santa Maria

No. 1 Hopkins, a joint undertaking of the R. R. Bush Oil Co. and Hancock Oil Co. in the Santa Maria Valley field of Santa Barbara County, was completed flowing at the rate of 1,500

bbls. per day from 4,425 feet, but has been shut in due to inadequate storage facilities. The well, bottomed at 4,517 feet but plugged back to 4,425 feet, has 1,415 feet of productive formation from which to draw and should, consequently, show a much larger production when adequate storage facilities are provided and should also obviously show long-lived production. Very few wells in the Santa Maria Valley field have been given potential production tests due to the absence of pipe line facilities and, as a result, operators in other parts of the state may not be thoroughly cognizant of the large potentiality of that field. The last well completed by Union Oil Co. in the field, No. 2 Adam, was only opened enough to show 4,000 bbls. per day, but could easily have hit 10,000 bbls. per day through the use of a 1-inch bean. The Union's new pipe line from the Santa Maria Valley field to tidewater at Avila should be completed and placed in operation late in April or early in May. The Union is starting new wells in this field on the Enos lease in section 23-10-34, on the Mahoney property in section 24-10-34 and on the Vincent lease in section 30-10-33.

Ten Section

Shell Oil Co. completed another excellent well in the Ten Section field of Kern County when No. 78-30 in section 30-30-26 was brought in flowing 2,520 bbls. of clean 32.1-gravity oil and 2,200,000 feet of gas per day through two 1-inch orifices. This new well was bottomed at 8,474 feet but was plugged back to 8,215 feet and finished with a 5-inch liner. Shell's next producer in this field should be No. 23-30 in section 30-30-26 and this potential producer should be followed into production by No. 58-29 in section 29-30-26. Signal Oil Co. has reached a depth of 7,300 feet in No. 1 Kern County Land in section 21-30-27 but still has another several hundred feet to go before reaching the depth at which production is expected. Superior Oil Co. has not yet resumed drilling operations in No. 8 Kern County Land in section 11-30-26, but an early resumption of work is anticipated. This outpost is a joint test of Superior Oil Co. and Union Oil Co. and is bottomed at 10,409 feet with a string of 7-inch landed and cemented at 10,380 feet. This wildcat has been standing idle for the past several weeks although some heavier drilling equipment has been moved in since the pipe was cemented.

Greeley

Standard Oil Co., discoverer of the Greeley field of Kern County, should have four wells ready for production tests within a few weeks. Top of the pay has been cored in No. 11-2 in section 20-29-26 at 7,784 feet and a 9-inch water string has been run in and cemented at 7,725 feet. No. 12-1 in section 30-29-26 is rotating ahead at 7,795 feet and No. 14-1 in section 4-30-26 is going ahead at 7,541 feet. No. 11-4 is just about ready to be spudded in. Mohawk Petroleum Co. has reached a depth of 5,300 feet in its Greeley outpost but is not yet deep

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

	March 18		March 11			
Intercoastal-	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
domestic—						
Diesel and gas oil					176,726	151,541
Gasoline	79,760	11,394			286,012	1,219,973
Kerosene						385,956
Foreign exports—						
Crude oil	372,486	53,212	147,262	21,037	2,442,333	1,809,798
Fuel oil	188,064	26,866	228,288	32,613	2,664,428	2,031,624
Diesel and gas oil	153,750	21,964	115,081	16,440	1,558,161	810,693
Gasoline	291,891	41,699			1,406,442	1,301,480
Kerosene					588,107	130,351
Other finished oil	22,734	3,248			179,265	6,439
Coastwise-domestic—						
Crude oil	64,512	9,216	25,304	3,615	1,167,829	1,170,801
Fuel oil	351,679	50,240	448,752	64,107	3,204,340	1,929,407
Diesel and gas oil	6,261	894	2,554	365	512,259	369,417
Gasoline	193,823	27,689	150,671	21,524	2,332,774	2,626,329
Kerosene			2,981	426	28,295	62,895

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Diesel and gas oil			77,037	11,005	152,932	
Gasoline					25,778	
Lubricants						1,799
Foreign exports—						
Crude oil	148,423	21,203	24,871	3,553	829,591	482,936
Fuel oil	69,705	9,958			324,581	660,402
Diesel and gas oil	47,272	6,753	161,072	23,010	666,576	100,856
Gasoline	13,115	1,874	225,476	32,211	1,261,749	717,192
Kerosene			28,064	4,009	165,359	163,009
Lubricants	10,320	1,474	16,614	2,373	151,311	43,008
Coastwise-domestic—						
Fuel oil	107,913	15,416	173,491	24,784	1,458,191	1,663,020
Diesel and gas oil	14,008	2,001			122,031	76,898
Gasoline	148,663	21,238	121,616	17,374	1,076,806	955,056
Kerosene					21,509	40,000

enough to pick up the anticipated pay.

Midway-Sunset

In the Midway-Sunset field Standard Oil Co. completed two wells in section 33-32-24. No. 52-33-D was brought in pumping 542 bbls. of relatively clean 21.4-gravity oil and 32 bbls. of water daily from 2,985 feet. No. 79-33-D was finished pumping 425 bbls. of 21.5-gravity oil and 3 bbls. of water per day from 3,005 feet. Chanslor-Canfield-Midway Oil Co. No. 33 in section 21-32-23 was completed, pumping 392 bbls. of 18.9-gravity oil per day from 2,635 feet, but the output was still cutting in excess of pipe line requirements. This new well was finished with a 10¾-inch water string landed at 1,685 feet and a 6⅝-inch liner carrying 979 feet of perforated. Hallmark Oil Co. No. 6 Fried was completed, pumping 347 bbls. of clean 22.9-gravity oil per day from 2,830 feet, after the hole had been plugged back from 2,896 feet. Berry Holding Co. No. 21 in section 34-12-24 was finished pumping 45 bbls. of 12.9-gravity oil daily from 831 feet. This is a good well considering the shallow depth at which production was secured and the depleted condition of the oil zone.

Kern River

Two new wells were completed in the Kern River district during the past week and both registered satisfactory production. Standard No. 4 Ward fee in section 24-28-27 was completed pumping 174 bbls. of 14.5-gravity oil and 7 bbls. of water daily from 1,995 feet. This new well was finished with an 8⅝-inch water string landed at 1,695 feet and a 6⅝-inch liner carrying 331 feet of perforated. In the Premier district of the Kern River field Seskayden Oil Co. No. 4 Sesnon was completed pumping 195 bbls. of clean 14.9-gravity oil per day from 2,902 feet. Roscoe & Stanley No. 3 Newhope, which was completed as a flowing well, sanded up a few days ago and preparations are already under way to effect a cleanout job. This well was one of the few completions in this area that have come in under a natural flow. Golden Bear Oil Co. has rigged up rotary drilling equipment in No. 6 Grimes, an offset to Roscoe & Stanley No. 3 Newhope mentioned above, and the latter firm is rigging up No. 4 Newhope which should prove to be a good completion. Mines Oil Co. has abandoned No. 4 Premier in section 20-27-27 as a duster at 2,190 feet.

Fruitvale

Edward Geick completed in excellent producer in the Fruitvale field of Kern County when No. 1 Greeley in section 23-29-27 was put on the beam following completion at 3,134 feet. It tanked 440 bbls. during the first 24 hours' production and has settled down to steady production at the rate of 418 bbls. daily. Trico Oil & Gas Co. No. 2 Knowles started off as a good producer following completion at 3,200 feet but failed to hold up. It was brought in pumping 264 bbls. of 15.6 gravity oil per day but has dropped to 130 bbls. at present. Western Gulf Oil Co., discoverer of the Fruitvale field concluded drilling operations on No. 2 A. C. West at 3,952 feet and is washing perforations preliminary to putting the well on the beam. The company has staked location for No. 25-B Kern County Land in section 21-29-27 and should begin rig construction within another few days.

Lost Hills

Drilling operations in the extreme western end of the Lost Hills field where Associated Oil Co. discovered an accumulation of heavy oil at a shallow depth about a year or so ago are expected to show an increase during the next few months if the present scope of work proves justified. During the past week, Standard Oil Co. completed No. 3 United in section 2-26-20, pumping 138 bbls. of 13.1-gravity oil and 59 bbls. of water per day from 1,407 feet. Associated Oil Co. has a rig up for No. 9-A-3 Williamson in section 11-26-20 and is rigging up rotary in No. 12-A-3 preparatory to resuming operations at 1,675 feet. The latter well is expected to be carried down to the third shallow zone which has at times shown some indication of resulting in sustained commercial production. The Texas Co. has started rig construction for No. 2 Theta.

Los Angeles Basin

In the Playa Del Rey field Union Oil Co. completed No. 16 Del Rey, pumping 120 bbls. of 21.8-gravity oil per day from 6,099 feet. The well may register a much larger production within another day or two. In the East Coyote field, Dolicia Oil Co. completed No. 2 Anaheim Water pumping 65 bbls. of 20.8-gravity oil per day from 3,534 feet. Barnsdall Oil Co. and Union Oil Co., holding by far the cream and largest part of the potentially productive acreage in the Rosecrans field of Los Angeles Basin, are both going to undertake additional drilling as a result of the recent completion by the former of a deep well in a new virgin zone. Exeter Oil Co., Republic Petroleum Co. and another operator have already indicated that they will likewise undertake deep drilling. In the Huntington Beach field the Petroleum Co. completed No. 5 Wilson, pumping 70 bbls. of 22.1-gravity oil per day from 3,900 feet and in the Long Beach field the Texas Co. has recompleted No. 6 Harlow-Kent, pumping 92 bbls. of 21.8-gravity oil daily from 4,650 feet.

Kettleman Hills

In the Kettleman North Dome field Standard Oil Co. No. 85-19-J in section 19-21-17 was brought in flowing 651 bbls. of 33.5-gravity oil and 1,100,000 feet of gas per day from 8,240 feet, after the hole had been plugged back from 8,619 feet because of apparent bottom water. Kenda No. 83-24-H, in section 24-21-16, was completed doing 70 bbls. of 33.5-gravity oil daily from 8,882 feet after the hole had been plugged back from 8,935 feet. Kenda and Standard are making plans for development work during the coming year and while several new locations have already been staked by both it is probable that additional wells will be undertaken within a short time. In the Ventura Avenue field, Associated Oil Co. has completed No. 27 Hartman and this new producer was brought in pumping 50 bbls. of 27.4-gravity oil daily from 5,930 feet.

Drilling Contractors

(Continued from Page 71)

by Jack Frazier and others, one at Segno by the Rajo Oil Corp., one at Raccoon Bend by the Humble Oil & Refining Co., one at Hastings, Heyser and in Colorado County by Humble Oil & Refining Co., one at Orchard by Gulf Oil Corp., two at Dickinson and Tomball by Humble and one each in Fort Bend County and Ace by the Research, Inc., and Peyton Brothers.

Cron & Gracey have apparently uncovered a new field in southeastern Jackson by encountering an oil sand in No. 1 T. N. Mauritz, drilled for the Texas Co. on the Ganado structure. Four feet of oil sand was cored from 5,090-94 feet and a drill stem test was being made. This is believed to be the top sand and the well will no doubt be deepened before setting casing. No. 1 T. N. Mauritz is located on a solid block of about 5,000 acres.

Central West

Operations in Central Ohio, Kentucky, Illinois, Indiana

By GEORGE A. WHITNEY

FINDLAY, Ohio, Mar. 29. — Field operations are steadily increasing in most sections of the Central West fields but Kentucky and Indiana have not fully recovered from the recent floods in that area and consequently operations are rather slow in those fields at this time.

In the Lima field, D. B. Davis completed a third well on the Carl Foltz farm in section 6, Eagle Township, Hancock County. It made 35 bbls. the first 24 hours after a shot.

R. D. Perkins completed a well on the Rufus Martin farm in section 25, Liberty Township, Seneca County, in Trenton sand at 1,430-44 feet. It made 15 bbls. naturally the first 24 hours. In the same section, C. J. Minor No. 3 Russel Martin was completed in the same sand at approximately the same depth and gauged 56,299 feet of gas after being shot.

Good Will Oil & Gas Co. moved a rig onto the John and Edward Keil property in section 28, Monclova Township, Lucas County.

In Wood County, section 35, Plain Township, James Brailey is drilling No. 24 S. L. Mitchell.

ILLINOIS

After almost a year of exploration and research by major companies in the Illinois Basin area, drilling activity is getting under way in that section and many companies are preparing to start drilling operations. Many local operators are already drilling comparatively shallow tests and some companies are drilling to deeper horizons, but it may be some time before a well is sunk to a depth of 6,000 or 7,000 feet if operators continue to find oil in paying quantities in the upper formations.

Five producers and one gas well were reported completed in the Illinois field, during the past week. The largest of these was the Mahutska Oil Co. No. 10 Mark Madden, NW NE section 7-1n-11w, Wabash Township, Wabash County. This well was drilled to a total depth of 1,448 feet and topped the Biehl sandstone, a basal Pennsylvanian, at 1,418 feet and made 80 bbls. after a shot of 80 quarts.

In the Crawford County field, West Union Oil & Gas Co. No. 1 Ducommon, SE SE NW section 28-6n-12w, Honey Creek Township, produced 25 bbls. the first 24 hours after a shot. This well topped the McClosky sand (Lower Mississippian) at 1,506 feet and was drilled to a total depth of 1,528 feet. In the same township, SE NW section 31-6n-11w, Dinsmoor Oil Co. No. 34-C W. E. Ewing, was completed below the Robinson sand (basal Pennsylvanian) at 940-45 feet and produced 3 bbls. after being shot with 50 pounds of solidified nitroglycerin.

In the same county, NE SE section 10-7n-13w, Oblong Township, Tide Water Associated Oil Co. No. 14 H. F. Henry was completed in the same formation at 956-87 feet. This well was shot with 50 quarts and had not been tested as yet but a conservative estimate placed it as a 15-bbl. producer.

In Bond County, NW NE SW section 30-6n-3w, La Grange Township, F. S. Ray & Co. No. 1 Harry Mitchell was completed as a commercial gas well. It was drilled through the Lindly sand (Cypress, Upper Mississippian) at 940-51 feet.

In the new Bartelso pool, in SE NE SW section 5-1n-3w, Santa Fe Township, Clinton County, Newton & Co. No. 1 Frank Gross was completed in the Carlyle sand of the Chester series at 1,004-25 feet and has an estimated production of 35 bbls. after a shot of 20 quarts.

In the same county, Carl Willi & Co. staked a new location on the Martin Holly farm in the NE cor. of SW section 12-1n-2w, Lake Township. In SE NW section 13-3n-1w, Clear Fork Township, Patoka Petroleum Corp., formerly Kahlert & Co., is rigged up on the Ducomb property. W. C. McBride, Inc., is drilling below 1,178 feet in a test on the Stephen Holtgrave farm in NE SE section 28-2n-3w, Wade Township. Santa Fe Oil & Gas Co. is spudding No. 2 P. Kleinekorte, NW NE section 8-1n-3w, Santa Fe Township.

In Lawrence County, section 11-3n-12w, Lawrence Township, Warren Hastings & Co. has staked a location on the Victor Christensen property.

Boone Oil Co. has also staked a location for No. 2 Snedeker Brothers, in section 15-8n-8w, Hillyard Township, Macoupin County.

In Marion County, Hempen & Burgess have moved a rig on location for a test on the G. E. Allison farm, NE NW SW section 33-4n-1e, Patoka Township. In the NE NW of the same section, the same operators are rigged up on the Walter Adams farm. Adams-Louisiana Oil Co. is drilling below 900 feet in the second test on the Glenn Merryman farm, SE SW section 21-4n-1e, Patoka Township. Adams-Louisiana Oil Co.'s first test on this farm was drilled through the Benoist sand of the Chester series at 1,391-1,418 feet and is now making 52 bbls. a day through a quarter-inch choke.

CENTRAL OHIO FIELD

In the Central Ohio field, Bell & Co. No. 3 S. and C. Seidenfield, section 36, Coal Township, Perry County, was drilled through Clinton sand at 3,681-3,716 feet, with a break in the sand from 3,701-06 feet, to a total depth of 3,722 feet and produced 40 bbls. the first 24 hours after a shot of 90 quarts. In section 30, Monroe Township, Kachelmacher Estate, staked a location for No. 20 on the Hemlock Coal Co. property. In section 2, same township, Wehrle Brothers No. 7 Worley Deaver made a small show of gas in the Berea and will probably be drilled deeper.

In Huron County, section 2, Bronson Township, Williams & Co. No. 1 L. and F. Chapin, which was completed in the Shale at 295 feet, was increased to 20,000 feet of gas by a shot. In section 3, Hartland Township, Leathers & Co. No. 1 D. W. Reynolds made gas in the Shale at 300, 350 and 400 feet for a total volume of 846,000 feet.

Ohio Fuel Gas Co. completed a small gas well on the Eli Yutzy farm in section 26, Paint Township, Holmes County. This well was completed in the Red sand at 4,009-55 feet.

In Ashland County, section 28, Ruggies Township, Kline & Co. completed a gas well on the Charles Crittenden farm in Shale at 545-70 feet. It gauged 242,900 feet of gas and had a rock pressure of 53 pounds. The same operators staked location for No. 2 on this farm.

East Ohio Gas Co. has rigged up and is preparing to drill three tests in Green Township, Summit County, on the Jennie Reifsnyder farm in section 33; the C. E. McCafferty property in the same section, and on the Charles Hartong farm in section 32.

In Tuscarawas County, section 3, Sandy Township, East Ohio Gas Co. test on the J. W. Lebold farm, drilled through Niagara lime at 3,050-4,548 feet and completed 1 foot below the Clinton sand at 4,764-95 feet. This well gauged at the rate of 4,000,000 feet of gas per day one hour after a shot but settled to 1,500,000 feet the first 24 hours. In section 4, Mill Township, Walton & Co. No. 2, on the Buckeye Fire Clay Co. property, which made a show of gas in the Berea at 1,057 feet, filled with water at 1,115 feet and may be plugged back to the Berea.

George Jewell completed a test on the C. A. Harper and others property as a small gas well. This well is located in section 5, Jefferson Township, Guernsey County, and it was drilled through a broken Berea formation which was topped at 1,039 feet and was drilled to a total depth of 1,101 feet, where it gauged 187,000 feet of gas. In section 6, same township, George Jewell completed a second test on the Henry Armstrong farm in the second Berea sand at 1,072-84 feet. This well gauged 49,000 feet of gas naturally and may be shot.

Another small gas well was completed in the same section, on the Walter Burnsworth farm, by George Kernodle. This well gauged 423,000 feet of gas in the Berea sand at 1,204-08 feet and had a rock pressure of 225 pounds. In section 1, Liberty Township, Joe Flannery has abandoned the test on the J. and R. Atkinson farm as a failure after making five bailers of water and no gas or oil in the Berea sand at 1,258-1,321 feet. In section 10, same township, Keith & Co. No. 2 D. C. McKahen was drilled through the Berea sand at 1,055-1,100 feet, where it filled with water, through a break to the sand again at 1,104-09 feet, where it gauged 153,000 feet of gas naturally.

A. H. Anderson & Co. No. 2 William Mahoney, in section 4, Center Township, Monroe County, was drilled through Injun sand at 1,570-1,625 feet and was dry and abandoned. A show of oil was made at 1,610 feet but the well started making 2 bbls. of water an hour at 1,625 feet. In section 23, Washington Township, Bentz Syndicate Oil Co. is rigged up for the No. 4 on the B. F. Cline property. In section 6, Bethel Township, F. C. Parks No. 3 Pearl Parks was drilled through the first Cow Run sand at 532-60 feet without a show of oil or gas and has been abandoned.

In the same county, section 5, Benton Township, Jims Run Oil & Gas Co. No. 3 Enos Haught gauged 554,000 feet of gas in the third Salt sand at 1,348-69 feet and may be drilled deeper. In section 29, same township, Hill Oil & Gas Co. No. 7 Ben F. Dye, Sr., made 90,000 feet of gas in the Keener sand at 1,644-55 feet and has been turned into the Hope Co. line.

A. J. West & Co. No. 1 Susan Crossley farm topped Keener sand at 1,462 feet and was drilled to a total depth of 1,491 feet without a show of oil or gas and has been abandoned.

In Wayne County, section 4, Sugar Creek Township, William C. Marable is spudding on his own property.

William Depuy No. 1 George and Julia Heldman, section 1, Liberty Township, Washington County, was drilled through the Berea sand at 1,930-47 feet without a show of oil, was plugged back to 1,557 feet, and the Injun sand at 1,412-47 feet was shot with 100 quarts and made 8 bbls. the first 24 hours.

In Morgan County, section 19, Marion Township, J. V. Bowman No. 3 Oliver Edgerton was drilled through the second Cow Run sand at 718-23 feet and gauged 1,100,000 feet of gas naturally and had a rock pressure of 245 pounds.

In Licking County, section 4, Maryana Township, Gail Earley is spudding in a test on the Delbert Layman property. Preston Oil Co. has staked a location for No. 14 on the Jasper Wright farm in section 15, Perry Township.

In Meigs County, section 3, Rutland Township, Ohio Fuel Gas Co. No. 1 Bart Romaine made a small show of gas and a hole full of water in the first Berea sand at 1,665-85 feet, was drilled through the second Berea at 1,727-39 feet with another small show of gas and has been plugged and abandoned. In section 26, Lebanon Township, Tierney & Co. are rigged up for a test on the Daniel Keyse property. In section 35, same township, Goodfellows Co. is moving a machine on location for No. 11 on the Elias Jividen Estate.

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Mar. 27.—Official figures issued by the Canadian government show that the crude oil and naphtha production from Canadian fields in 1936 totaled 1,504,287 bbls., comparing with 1,447,204 bbls. in 1935, a gain of 3.9 per cent.

Turner Valley Producers

Among recent completions, B. & B. Co. No. 1, LSD 12, section 28-18-2w5, bottoming in the Madison limestone at 6,608 feet, produced 30,878 bbls. of crude during a 24-day test starting February 4.

West Side Royalties No. 1, LSD 3, section 21-18-2w5, bottoming in the lime at 6,379 feet, is maintaining a yield around 225 bbls. a day. Newfold Royalties No. 1, LSD 11, same section, is testing production, and has a small wet gas and naphtha yield. It may be acidized.

Sterling Pacific Producer

On the west flank of Turner Valley, Royalite Oil Co. No. 4 Sterling Pacific, LSD 4, section 33-18-2w5, offsetting Turner Valley Royalties No. 1 immediately to the north, discontinued drilling 468 feet in the lime at 7,184 feet. Instead of bailing the column of rotary mud, estimated to weigh 75 tons, tubing was run and gas from the Royalite absorption plant forced down under pressure to clear the fluid at intervals of between 400 and 700 feet. The well began to flow crude with 2,000 feet of rotary mud still in the hole, and, though allowed to blow free part of the time, flowed 1,074 bbls. into tankage in the first 24 hours. With the hole practically clear it is yielding at the rate of 1,350 bbls. a day. It is the largest producer in the field, and in the British Empire.

West Central Drilling

In section 30-19-2w5, Dalhousie Oil Co. No. 8, LSD 6, is below 6,565 feet after getting the Madison lime at 6,178 feet and is preparing to test production. It is about 5½ miles north of the crude producing area.

A Vancouver syndicate headed by S. A. Clancey is arranging to test acreage in LSD 9, section 24-19-2w5. West Crest Petroleums, Ltd., headed by A. B. Claypool, has arranged to start a test in LSD 16, same section, by May 18. Lethbridge Petroleum & Refineries, Ltd., has made tentative arrangements for a test in LSD 8, immediately south of West Crest acreage.

West Side Operations

In section 28-18-2w5, Richland Royalties No. 1, NE half LSD 12, has resumed after cementing for water shutoff at 520 feet. Richland No. 2, LSD 5, bottoming below 4,000 feet, is cleaning out and carrying casing below 2,800 feet. Richland No. 3, LSD 14, is below 4,600 feet after cementing 10-inch at 4,525 feet. Over a dozen new operations have started in the district.

On the west flank of North Turner Valley, Phillips Royalties No. 1, LSD 16, section 16-20-3w5, is running casing to 2,370 feet preparatory to deepening. This will test a new west flank area some 14 miles north of the crude oil producers in South Turner Valley.

High River—Aldersyde

On the Cayley dome east of Turner Valley, Arca Development Corp. No. 1, NW section 24-18-1w5, has resumed drilling from 8,930 feet. The test, the deepest in Canada, got the Madison limestone at 8,756 feet and cemented casing at 8,804 feet. It is expected to go below 9,000 feet to reach the potential producing horizon.

On the New Valley structure northeast of Turner Valley, McLeod Oil Co. No. 1, LSD 4, section 6-21-2w5, bottoming at 7,255 feet, is preparing for a swabbing test.

Taber Crude Producer

On the Majestic structure west of Taber, in southern Alberta, Plains Petroleum No. 1, LSD 14, section 29-9-17w4, bottoming at 3,816 feet, is flowing by heads and making about 80 bbls. of oil a day. The oil sand, encountered at 3,804 feet, was not fully drilled, and its thickness is uncertain. It is planned to later run 2-inch tubing to secure continuous production. A half-mile line will be laid from the well to deliver production to a railroad siding at Taber. The crude is 27.5 gravity.

Following the strike, extensive filing was done in the Taber area. Plains Petroleum is arranging to drill additional wells as soon as No. 1 is definitely finished and in steady production.

On the Del Bonita structure south of Lethbridge, Sunshine Oils No. 1, LSD 10, section 19-1-21w4, bottoming in the Madison limestone at 5,252 feet, has a fair production of 38-gravity crude. Contract has been let to Dowell, Inc., of Tulsa for acid treatment, which will be carried out early in April.

East Central Alberta

In the Wainwright field, east central Alberta, Montreal-Alberta Oil Co. No. 1, LSD 2, section 15-45-7w4, bottoming in the lime at 3,400 feet, is cleaning out and will run 6-inch casing and test production with the aid of a packer between 3,035 and 3,075 feet. Western Consolidated Oils No. 2, LSD 11, section 30-45-6w4, is pulling 6-inch casing. It got oil shows at 2,076 and 2,219 feet, but no commercial production.

S. W. S. Drilling Co. of Edmonton is moving for a test in NW quarter section 32-47-5w4, for Battleview Oils, Ltd. This will be the first test on the Battleview anticline, mapped a couple of years ago by Dr. G. S. Hume of the Geological Survey of Canada.

Southwest Texas Fields

(Continued from Page 66)

ing will begin on state leases in the submerged area.

Nine New Wells in Saxet

The Saxet field of Nueces County made news as usual with nine new oil wells in the Clarkwood and 5,800-foot Frio sands. A 1,000-foot eastward extension is in the making for the 4,800-foot sand as the Donico Production Co. No. 1 Donnigan drills plugs in casing set at 4,840 feet. The test recovered 930 feet of oil at 4,840-60 feet. It is located in section 7, Range 6, of the Kinney Lands Subdivision.

Two 6,900-foot tests are perforating casing in that sand, and two others are being completed in the same horizon, the deepest yet opened in the field. One of the wells, Phillips Petroleum Co. No. 5 Hutchins, was cleaning into pits at latest reports to constitute a major two-mile extension to the 6,900-foot producing horizon.

The deep sands failed to show production in three tests: Howell No. 1 Morgan in Survey 415, Morgan & Chapman No. 6 Morgan-Clark in Survey 405, and Texon Drilling Co. No. 1 Vance in the Gallagher Survey. Another disappointment for the Saxet Heights or Corpus Christi field to the east occurred when the Taylor Petroleum Co. No. 7 Corpus Christi Golf & Country Club was abandoned. The test, failing in the main field sand at 4,000 feet, drilled to a total depth of 7,531 feet without encountering any shows. No further production has been found in the Saxet Heights field, contrary to expectations in view of the multiplicity of producing sands in the Saxet field a few miles to the west.

Varying results were obtained in the Sweden field of Duval County. The Hiawatha Oil Co. immediately began drilling two tests following the discovery of the field several weeks ago. No. 1 Miller was completed during the past week for an initial of 135 bbls. per day on a one-eighth inch choke, but No. 1 Herberger swabbed salt water with a slight show of oil from the same sand. The latter well is being plugged back to retest. Hiawatha holds a large block of acreage around the discovery well of the new field, and operations will be in that company's hands for some time. However, a few tests are planned in the vicinity of the strike, and one wildcat is drilling below 4,000 feet 4½ miles northeast of the field and 2 miles from the Palangana field.

Two tests attracted considerable attention in the Lower Rio Grande Valley during the week. In Starr County an oil strike was made about 4 miles northeast of the Rio Grande City pool, and 1¼ miles southeast of the new Ricaby area, as the Dodd No. 1 Wood flowed an estimated 250 bbls. per day of 24.3 gravity crude. Operators are killing the well to set casing.

In the La Blanca area of Hidalgo County, Sterling Oil & Refining Co. No. 1 Engleman cored an oil sand at 7,495-7,555 feet and is being carried deeper, below 7,800 feet at the latest report. The new sand adds importance to the La Blanca area. The Gulf States Oil Co. No. 3 Engleman, a workover in the Mestanas area, was abandoned at a total depth of 8,123 feet after failing to make a producer at 7,891-98 feet.

Louisiana-Arkansas Fields

(Continued from Page 65)

Glen Rose in search for oil. United Gas Public Service Co. owns gas rights under this block.

The Motex Oil Co. is coring at 5,680 feet in No. 1 Furrh Estate, M. Alstone Survey, 3 miles east of Elysian Fields, in search of the top of the Pettit sand.

About 14 miles northeast of Carthage, R. H. Deering and Sons have derrick built for No. 1 Wooten Estate, Winnie Mann Survey, on their extensive geophysically mapped structure.

Shelby County

Indicating itself as a possible oil field opener, H. A. Stebbinger and others No. 2 Pickering, A. Hanson Survey, cored 20 feet of oil and gas saturated Glen Rose lime from 5,021-41 feet. Schlumberger was run and it is reported to have checked the saturated section, so casing was run preparatory to testing. Plug is expected to be drilled early this week.

Location is about three-fourths mile south of the operator's No. 1 Pickering, which was completed several months ago from the top part of the same formation at 5,029 feet as a gas and distillate producer. No. 2 is reported to have checked 9 feet lower on top of massive anhydrite, logged from 4,628-4,825 feet.

Mulroy-Curtain and others No. 1 Hayden, D. T. F. Yordt Survey, total depth 3,182 feet, was incorrectly reported on January 28 as dry and abandoned. The well is shut down, waiting for orders. The owners have announced intention to drill deeper.

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Shell Oil Co., No. 1-20 Capitan, Santa Barbara Co.	32- 5-30	2,510	sd. sh. drlg.
Barnsdall-Rio Grande, No. 19 Elwood, Santa Barbara	15- 4-29	3,728	sd. sh. drlg.
Signal Oil Co., No. 98-9 Elwood, Santa Barbara Co.	tideland	3,914	cleaning out
Bush Oil Co., No. 1-H Santa Maria, Santa Barbara	30-10-33	4,516	flow. 1,370 b.d.
Ericksson, G., No. 1 Santa Maria, Santa Barbara	16-10-34	1,250	sd. sh. drlg.
Union Oil Co., No. 1-O Santa Maria, Santa Barbara	21-10-34	1,742	sd. sh. drlg.
Union Oil Co., No. 12 Orcutt, Santa Barbara Co.	26- 9-34	3,942	O.S. drlg.
Union Oil Co., No. 17 Orcutt, Santa Barbara Co.	26- 9-34	3,880	sd. sh. drlg.
Valley Oil Co., No. 1 Casmalia, Santa Barbara Co.	20- 9-34	1,410	sd. sh. drlg.
Barnsdall Oil Co., No. 6 Gato Ridge, Santa Barbara	9- 8-32	2,260	sd. sh. drlg.
Field Gaso. Corp., No. 1 Gato Ridge, Santa Barbara	4- 8-32	3,400	pump. 570 b.d.
Stewart-Carter, No. 1 Gato Ridge, Santa Barbara	4- 8-32	2,311	cmtd. 2,160
Nine Springs Oil, No. 1 Los Olivos, Santa Barbara	9- 7-30	3,100	sd. sh. drlg.
Fisher, Dan, No. 1 Cuyama, Santa Barbara Co.	28-11-28	646	sd. sh. drlg.
The Texas Co., No. 132 Shiells, Ventura Co.	4- 3-19	3,123	swabbing
Calumet Oil Co., No. 16 Shiells, Ventura Co.	3- 3-19	4,420	hd. sd. drlg.
Condor Oil Co., No. 1 Sespe, Ventura Co.	6- 4-19	1,576	br. sh. drlg.
Ivers, H. A., No. 14 Star, Sespe, Ventura Co.	1- 4-20	302	sd. sh. drlg.
Merchants Pet. Co., No. 7 Sespe, Ventura Co.	1- 4-20	860	sd. sh. drlg.
Speik Oil Co., No. 2 Sespe, Ventura Co.	33- 5-19	2,010	hd. sh. drlg.
Colima Oil Co., No. 2 Sespe, Ventura Co.	25- 5-19	2,040	reaming
Bolsa Chica Oil Co., No. 5 Temescal, Ventura Co.	5- 4-18	1,076	sd. sh. drlg.
Pacific Western Oil Co., No. 10 Temescal, Ventura	3- 4-18	2,365	sd. sh. drlg.
St. Louis Oil Co., No. 3 Ojai, Ventura Co.	13- 4-24	681	hd. sh. drlg.
Continental Oil Co., No. 1 Red Mountain, Ventura	7- 3-23	5,644	fish. D.P.
C. C. M. Oil Co., No. 2 Padre Canyon, Ventura Co.	23- 3-24	6,465	cmtd. fish
C. C. M. Oil Co., No. 5-A Padre Canyon, Ventura Co.	15- 3-24	3,176	sd. sh. drlg.
Continental Oil Co., No. 3 Padre Canyon, Ventura	15- 3-24	2,670	fish D.P.
Honolulu Oil Corp., No. 1 South Mountain, Ventura	23- 3-21	6,744	cleaning out
Calco Pet. Corp., No. 4 South Mountain, Ventura Co.	17- 3-20	3,900	sd. sh. drlg.
Associated Oil, No. 27 Hartman, Ventura, Ventura	22- 3-23	5,930	pump. 20 b.d.
Associated Oil, No. 25 V.L.W., Ventura, Ventura	23- 3-23	7,055	flow. 205 b.d.
Associated Oil, No. 29 Lloyd, Ventura, Ventura	27- 3-23	4,310	sd. sh. drlg.
Associated Oil, No. 60 Lloyd, Ventura, Ventura	27- 3-23	1,975	sd. sh. drlg.
Associated Oil, No. 64 Lloyd, Ventura, Ventura	27- 3-23	4,392	sd. sh. drlg.
Associated Oil, No. 66 Lloyd, Ventura, Ventura	27- 2-23	2,794	sd. sh. drlg.
Associated Oil, No. 137 Lloyd, Ventura, Ventura	27- 3-23	4,874	sd. sh. drlg.
Shell Oil Co., No. 89 Taylor, Ventura, Ventura Co.	30- 3-23	7,997	sd. sh. drlg.
Shell Oil Co., No. 34 Gosnell, Ventura, Ventura Co.	23- 3-23	7,121	flow. 18 b.d.
General Pet., No. 17 Barnard, Ventura, Ventura	23- 3-23	6,700	repairing
Continental Oil Co., No. 6 San Miguelito, Ventura	24- 3-24	6,502	O.S. drlg.
C. C. M. Oil Co., No. 13-B Rincon, Ventura Co.	8- 3-24	3,665	O.S. drlg.
General Pet. Corp., No. 3-A Rincon, Ventura Co.	8- 3-24	4,512	rig. to pump.
Lube Oil Co., No. 1 Devils Den, Kern Co.	2-25-18	4,285	reaming
Standard Oil Co., No. 3 United, Lost Hills, Kern Co.	2-26-20	1,407	pump. 134 b.d.
Tide Water A. O. Co., No. 12-A-3, Lost Hills, Kern	11-26-20	1,675	to deepen
Peters Royalty Corp., No. 2 McKittrick, Kern Co.	32-29-22	1,698	rig. to pump
Welport Oil Co., No. 18 McKittrick, Kern Co.	26-29-21	756	sd. sh. drlg.
Continental Oil Co., No. 1 Wasco, Kern Co.	8-27-24	9,545	milling
Seaboard Oil Corp., No. 1 Wasco, Kern Co.	26-27-24	4,900	cleaning out
Belridge Oil Co., No. 24-35 North Belridge, Kern Co.	35-27-20	4,844	sd. sh. drlg.
Belridge Oil Co., No. 62-27 North Belridge, Kern Co.	27-27-20	7,296	br. sh. drlg.
Belridge Oil Co., No. 21-1 North Belridge, Kern Co.	1-28-20	5,997	br. sh. drlg.
Tide Water Associated, No. 6 North Belridge, Kern	34-27-20	1,520	sd. sh. drlg.
Doyle Pet. Co., No. 2 Quinn, Jasmine, Kern Co.	15-25-27	1,865	sd. sh. drlg.
Honolulu Oil Corp., No. 65 Round Mountain, Kern	18-28-29	1,840	O.S. drlg.
Tide Water Associated, No. 3 Kern Front, Kern Co.	4-28-27	2,811	rig. to pump
M. H. Whittier Co., No. 4 Kern Front, Kern Co.	16-28-27	2,826	sd. sh. drlg.
Oil, Inc., No. 7-2 Kern Front, Kern Co.	13-28-27	1,000	sd. sh. drlg.
Seskayden Oil Co., No. 4 Kern Front, Kern Co.	17-28-27	2,902	pump. 197 b.d.
California Star Oil Co., No. 7-80 Kern Front, Kern	22-28-27	2,654	test. wet
California Star Oil Co., No. 9-40 Kern Front, Kern	22-28-27	2,678	sd. sh. drlg.
Standard Oil Co., No. 4 Ward, Kern Front, Kern	24-28-27	1,995	pump. 174 b.d.
Standard Oil Co., No. 5 Ward, Kern Front, Kern	24-28-27	1,783	sd. sh. drlg.
Standard Oil Co., No. 5-9 Kern Front, Kern Co.	9-28-27	2,755	sd. sh. drlg.
Pioneer Oil Co., No. 1 Kern Front, Kern Co.	18-28-28	1,115	rig. to pump
The Texas Co., No. 6 Lehman, Kern Front, Kern Co.	23-28-27	1,570	sd. sh. drlg.
National Oil Co., No. 9 Gates, Kern Front, Kern Co.	2-28-29	1,643	sd. sh. drlg.
McManus, Thomas, No. 3 Kern River, Kern Co.	2-29-28	451	sd. sh. drlg.
Superior Oil Co., No. 1 Bakersfield, Kern Co.	36-29-28	3,097	sd. sh. drlg.
Bojaki Oil Co., No. 1 Premier, Kern Co.	28-27-27	1,960	sd. sh. drlg.
Mines Oil Co., No. 4 Premier, Kern Co.	20-27-27	2,190	dry; abd.
Harp, E. J., No. 1 Mount Poso, Kern Co.	27-26-28	1,845	P.B. 1,460
C. C. M. Oil Co., No. 1 Alford, Mount Poso, Kern	35-27-27	3,600	hd. sd. drlg.
Magee, H. H., No. 2 Fruitvale, Kern Co.	23-29-27	3,244	P.B. 3,238
H. & H. Oil Co., No. 1 Fruitvale, Kern Co.	23-29-27	3,356	cmtd. 3,232
Western Gulf Oil Co., No. 35 Fruitvale, Kern Co.	21-29-27	3,952	cleaning out
Geick, Edward, No. 1 Fruitvale, Kern Co.	23-29-27	3,136	pump. 295 b.d.
Kasey & Associates, No. 1 Fruitvale, Kern Co.	23-29-27	3,114	P.B. 2,892
Exeter Oil Co., No. 2 Fruitvale, Kern Co.	21-29-27	2,961	sd. sh. drlg.
Pal-Pen Oil Co., No. 1 Fruitvale, Kern Co.	23-29-27	2,262	sd. sh. drlg.
Seahawk Pet. Co., No. 3 Fruitvale, Kern Co.	23-29-27	2,875	sd. sh. drlg.
Banducci, L. J., No. 2-T Fruitvale, Kern Co.	26-29-27	3,315	sd. sh. drlg.
Magnet Oil Co., No. 4 Fruitvale, Kern Co.	21-29-27	4,160	tested wet
Trico Oil & Gas Co., No. 2 Fruitvale, Kern Co.	23-29-27	3,213	pump. 104 b.d.
Vesta Oil Co., No. 1 Mountain View, Kern Co.	19-30-29	4,970	cmtd.
Wood-Callahan Oil, No. 3 Mountain View, Kern	25-30-28	5,965	completing
Hogan Pet., No. 4 Symons, Mountain View, Kern	5-31-29	6,020	sd. sh. drlg.
Hogan Pet., No. 8 Wharton, Mountain View, Kern	32-30-29	5,672	sd. sh. drlg.
Liko Pet. Co., No. 1 Mountain View, Kern Co.	19-30-29	5,052	sd. sh. drlg.
Ohio Oil Co., No. 1-B Derby, Mountain View, Kern	33-30-29	5,910	sd. sh. drlg.
Trico Oil Co., No. 3 Wilson, Mountain View, Kern	13-30-28	3,630	sd. sh. drlg.
General Pet. Corp., No. 5 Mountain View, Kern Co.	19-30-29	560	sd. sh. drlg.
Mohawk Pet. Co., No. 9-C Mountain View, Kern	30-30-29	4,471	sd. sh. drlg.
Johnson-Leaf Oil Co., No. 1 Edison, Kern Co.	24-30-29	1,525	redrlg. 1,331
General Pet. Corp., No. 1 Arvin, Kern Co.	26-31-29	7,462	P.B. 7,454
Bear Mountain Oil Co., No. 1 Arvin, Kern Co.	21-31-30	2,160	sd. sh. drlg.
Arkelo Oil Co., No. 1 Lerdo, Kern Co.	23-28-26	9,921	gr. sd. drlg.
Associated Oil Co., No. 1 Rio Bravo, Kern Co.	30-29-25	8,950	sd. sh. drlg.
Continental Oil Co., No. 1 Rosedale, Kern Co.	12-29-26	5,341	fishing
Standard Oil Co., No. 11-2 Greeley, Kern Co.	20-29-26	7,807	sd. sh. drlg.
Standard Oil Co., No. 11-3 Greeley, Kern Co.	20-29-26	7,266	sd. sh. drlg.
Standard Oil Co., No. 12-1 Greeley, Kern Co.	30-29-26	7,806	sd. sh. drlg.
Standard Oil Co., No. 14-1 Greeley, Kern Co.	4-30-26	7,541	sd. sh. drlg.
Mohawk Pet. Co., No. 1 Greeley, Kern Co.	23-29-25	5,275	sd. sh. drlg.
Union Oil Co., No. 1 San Emidio, Kern Co.	34-11-22	4,600	sd. sh. drlg.
Shell Oil Co., No. 21-14 Old River, Kern Co.	14-30-25	1,074	sd. sh. drlg.
Shell Oil Co., No. 78-30 Ten Section, Kern Co.	30-30-26	8,215	flow. 2,520 b.d.
Shell Oil Co., No. 23-30 Ten Section, Kern Co.	30-30-26	5,995	sd. sh. drlg.
Signal Oil & Gas Co., No. 1 Ten Section, Kern Co.	21-30-27	7,276	sd. sh. drlg.
Superior Oil Co., No. 8 Ten Section, Kern Co.	11-30-26	10,409	cmtd. 10,380
Ohio Oil Co., No. 4-A Buena Vista Lake, Kern Co.	32-31-26	5,250	sd. sh. drlg.
C. C. M. Oil Co., No. 26-21 Midway-Sunset, Kern Co.	21-32-23	2,335	cleaning out
C. C. M. Oil Co., No. 33-21 Midway-Sunset, Kern Co.	21-32-23	2,635	pump. 388 b.d.
C. C. M. Oil Co., No. 1-J Midway-Sunset, Kern Co.	21-32-23	2,200	rig. to pump
Midcrude Oil Co., No. 2 Midway-Sunset, Kern Co.	22-32-23	1,590	redrlg. 1,120
Hallmark Oil Co., No. 6 Fried, Midway-Sunset, Kern	25-12-24	2,830	pump. 345 b.d.
General Pet. Corp., No. 49 Midway-Sunset, Kern Co.	24-31-23	4,424	rig. to pump
R. & W. Oil Co., No. 4 Midway-Sunset, Kern Co.	6-11-23	3,420	sd. sh. drlg.
Berry Oil Co., No. 21 Midway-Sunset, Kern Co.	34-12-24	831	pump. 40 b.d.
Merritt-Annex Oil Co., No. 4 Midway-Sunset, Kern	25-12-24	2,982	sd. sh. drlg.
Standard Oil Co., No. 79-33-D Midway-Sunset, Kern	33-32-24	3,005	pump. 425 b.d.
Standard Oil Co., No. 39-23-D Midway-Sunset, Kern	23-32-24	3,708	P.B. 3,365
Standard Oil Co., No. 7-33-D Midway-Sunset, Kern	33-32-24	2,999	cmtd. 2,960
Standard Oil Co., No. 123-33-D Midway-Sunset, Kern	33-32-24	1,652	sd. sh. drlg.
Standard Oil Co., No. 52-33-D Midway-Sunset, Kern	33-32-24	2,985	pump. 542 b.d.
Standard Oil Co., No. 55-33-D Midway-Sunset, Kern	33-32-24	3,305	P.B. 3,110
Richfield Oil Co., No. 12 Midway-Sunset, Kern Co.	6-32-23	1,635	P.B. 1,502
Richfield Oil Co. No. 8-A Midway-Sunset, Kern Co.	6-32-23	1,198	sd. sh. drlg.
Holly Dev. Co., No. 1 Midway-Sunset, Kern Co.	22-32-23	1,573	sd. sh. drlg.
North American Oil Co., No. 5 Midway-Sunset, Kern	25-12-24	3,521	sd. sh. drlg.
The Texas Co., No. 19 Midway-Sunset, Kern Co.	32-24-24	2,890	sd. sh. drlg.
Union Oil Co., No. 5 Williams, Midway-Sunset, Kern	22-32-23	1,670	sd. sh. drlg.
Birch-Ranch Oil Co., No. 2 Midway-Sunset, Kern	22-32-23	2,165	pump. sand
Valley Oil Co., No. 1 Midway-Sunset, Kern Co.	18-32-23	2,635	br. sh. drlg.
Tide Water Associated, No. 31 Midway-Sunset, Kern	35-31-22	1,328	rig. to pump
Zamloch, Carl, No. 2 Midway-Sunset, Kern Co.	22-32-23	2,073	sd. sh. drlg.
Alford Oil Co., No. 8 Fried, Midway-Sunset, Kern	25-12-24	1,350	sd. sh. drlg.
Quality Oil Co., No. 4 Bull, Midway-Sunset, Kern	22-32-23	1,840	P.B. 1,176
Quality Oil Co., No. 5 Bull, Midway-Sunset, Kern	22-32-23	1,600	cmtd. 1,565
Honolulu Oil Corp., No. 36 Midway-Sunset, Kern	14-32-24	3,570	rig. to pump
Petrolia Royalties, No. 1 Midway-Sunset, Kern Co.	21-32-22	1,160	rig. to pump
Reserve Oil & Gas Co., No. 33-1 Tejon, Kern Co.	33-11-19	4,969	idle
Reserve Oil & Gas Co., No. 33-2 Tejon, Kern Co.	33-11-19	4,474	cleaning out
Reserve Oil & Gas Co., No. 33-3 Tejon, Kern Co.	33-11-19	4,431	shut in
Ohio Oil Co., No. 2 Tejon, Kern Co.	21-11-19	7,176	sd. sh. drlg.
Western Gulf, No. 3 Cantua, Fresno Co.	3-17-15	8,530	cleaning out
Union Oil Co., No. 2 Kettleman North, Fresno Co.	29-21-17	8,500	idle
K. N. D. A., No. 4-18-J Kettleman North, Fresno	18-21-17	9,400	redrlg. 9,170
K. N. D. A., No. 36-28-J Kettleman North, Fresno	28-21-17	7,762	O.S. drlg.
K. N. D. A., No. 56-28-J Kettleman North, Fresno	28-21-17	4,520	sd. sh. drlg.
K. N. D. A., No. 65-28-J Kettleman North, Fresno	28-21-17	6,790	br. sh. drlg.
K. N. D. A., No. 83-24-H Kettleman North, Fresno	24-21-16	8,882	flow. 70 b.d.
K. N. D. A., No. 85-32-J Kettleman North, Fresno	32-21-17	8,485	redrlg. 8,438
K. N. D. A., No. 63-34-J Kettleman North, Fresno	34-21-17	6,642	br. sh. drlg.
K. N. D. A., No. 61-4-P Kettleman North, Fresno	4-22-17	5,392	sd. sh. drlg.
Standard Oil, No. 8-19-J Kettleman North, Fresno	19-21-17	8,500	sd. sh. drlg.
Standard Oil, No. 85-19-J Kettleman North, Fresno	19-21-17	8,619	P.B. 8,240
Standard Oil, No. 38-33-J Kettleman North, Fresno	33-21-17	7,360	sd. sh. drlg.
Standard Oil, No. 81-33-J Kettleman North, Fresno	33-21-17	4,854	sd. sh. drlg.
Standard Oil, No. 78-3-P Kettleman North, Kings	3-22-17	6,670	sd. sh. drlg.
Temblor Oil Co., No. 1 Kettleman Middle, Kings	25-23-18	5,935	cleaning out
Central Cal. Utilities, No. 3 Dudley, Kings Co.	11-23-19	1,221	cmtd. 778
Norell, T. G., No. 1 Tulare Lake, Kings Co.	7-21-21	6,179	resume work
Stone, G. S., No. 1 Tulare Lake, Kings Co.	25-20-20	1,101	cmtd. 900

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Bldg., building.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
C.P., casing pressure.
Cd. or Crd., cored.
C.D., corrected depth.
Cg., coring.
C.L., center line.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd, sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.R.T., rigging up rotary tools.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sd. sh., sandy shale.
Sdtr., or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.I.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.O.O.K., water shutoff O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., wait on standard rig.
Wtr., water.

Tide Water Associated Oil, No. 2 Avenal, Kings	35-23-17	2,515	O.S. drlg.
Barnsdall Oil Co., No. 1 K.C.L., San Luis Obispo	1-32-20	2,092	sd. sh. drlg.
Calif. Prod. Co., No. 1 Pattiway, San Luis Obispo	19-10-24	751	sd. sh. drlg.
Temblor Oil Co., No. 1 Panorama, San Luis Obispo	22-32-21	212	sd. sh. drlg.
Lewis, A. O., No. 1 Pecho, San Luis Obispo Co.	34-30-10	2,310	cleaning out
Martin, J. D., No. 4-A Pismo, San Luis Obispo Co.	5-32-13	3,262	cleaning out
The Texas Co., No. 1 King City, Monterey Co.	30-19- 7	3,605	sd. sh. drlg.
Anderson, Amil, No. 1 Cholame, Monterey Co.	15-24-14	470	sd. sh. drlg.
Shell Oil Co., No. 1 Pleyto, Monterey Co.	34-24-10	8,994	P.B. 8,750
Shell Oil Co., No. 2 Pleyto, Monterey Co.	34-24-10	7,253	sd. sh. drlg.
The Texas Co., No. 2 Eureka, Humboldt Co.	22- 3- 1	7,418	cmtd. 6,580
Amerada Pet., No. 1 Mayhood, Rio Vista, Solano	35- 4- 2	4,532	completing
Amerada Pet., No. 2 Drouin, Rio Vista, Solano	26- 4- 2	1,271	sd. sh. drlg.
Tide Water A. O. Co., No. 1 Sargent, San Benito Co.	5-12- 4	6,664	hd. sd. drlg.
Buttes Oilfields, Ltd., No. 1 Kent, Sutter Co.	2-15- 1	5,210	cleaning out
Jennings, E. P., No. 1 Allensworth, Tulare Co.	4-24-23	2,709	P.B. 2,690
Coast Expl. Co., No. 1 Staten, San Joaquin Co.	2- 3- 4	451	sd. sh. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Caminol Oil Co., No. 1 El Segundo, Los Angeles Co.	18- 3-14	7,367	swabbing
Caminol Oil Co., No. 2 El Segundo, Los Angeles Co.	18- 3-14	7,309	flow. 100 b.d.
Richfield Oil Co., No. 4 El Segundo, Los Angeles	18- 3-14	7,535	cleaning out
Ohio Oil Co., No. 3 El Segundo, Los Angeles Co.	7- 3-14	3,591	sd. sh. drlg.
The Texas Co., No. 2-1 El Segundo, Los Angeles Co.	17- 3-14	7,756	P.B. 7,715
The Texas, No. 1 Security, El Segundo, Los Angeles	18- 3-14	7,253	flow. 8,540 b.d.
Republic Pet. Co., No. 4 El Segundo, Los Angeles	18- 3-14	7,429	sd. sh. drlg.
Republic Pet. Co., No. 5 El Segundo, Los Angeles	18- 3-14	7,383	sd. sh. drlg.
Royalty Serv. Corp., No. 1 El Segundo, Los Angeles	7- 3-14	7,290	sd. sh. drlg.
Leora Oil Co., No. 1 Hermosa, Los Angeles Co.	31- 3-14	5,150	hd. sh. drlg.
Signal Finance Co., No. 1 Hawthorne, Los Angeles	10- 3-14	9,395	cleaning out
C. C. M. Oil Co., No. 15 Torrance, Los Angeles Co.	31- 3-14	3,665	cleaning out
Two & One Oil Co., No. 6 Torrance, Los Angeles	31- 3-14	4,250	sd. sh. drlg.
Willett, P. W., No. 1 Torrance, Los Angeles Co.	18- 4-14	3,387	sd. sh. drlg.
Abrams, John & Assoc., No. 1 Torrance, L. Angeles	16- 4-14	4,068	pump. water
Calmore Oil Co., No. 1 Torrance, Los Angeles Co.	31- 3-14	4,050	sd. sh. drlg.
Swyer Oil Co., No. 1 Torrance, Los Angeles Co.	18- 4-14	3,400	sd. sh. drlg.
Country Club Oil, No. 1 Inglewood, Los Angeles	19- 2-14	3,051	br. sh. drlg.
Standard Oil Co., No. 82 Inglewood, Los Angeles	8- 2-14	3,685	br. sh. drlg.
Shell Oil Co., No. 89 Reyes, Dominguez, Los Angeles	33- 3-13	6,711	sd. sh. drlg.
Shell Oil Co., No. 90 Reyes, Dominguez, Los Angeles	33- 3-13	8,064	O.S. drlg.
Union, No. 50 Callender, Dominguez, Los Angeles	33- 3-13	9,910	sd. sh. drlg.
Union, No. 52 Callender, Dominguez, Los Angeles	33- 3-13	3,890	sd. sh. drlg.
Union, No. 53 Callender, Dominguez, Los Angeles	33- 3-13	6,738	sd. sh. drlg.
Union, No. 9 Carton, Dominguez, Los Angeles Co.	33- 3-13	7,302	sd. sh. drlg.
Shell Oil Co., No. 1 Rosecrans, Los Angeles Co.	20- 3-13	7,744	P.B. 7,602
Hildon Oil Co., No. 1 Flood Control, Los Angeles	11- 4-13	5,689	pump. 130 b.d.
Union, No. 16 D.R., Playa Del Rey, Los Angeles	27- 2-15	6,099	sd. sh. drlg.
Barnsdall Oil Co., No. 1 Newhall, Los Angeles	26- 3-17	6,472	flow. 300 b.d.
Burt, A. G., No. 1 Newhall, Los Angeles Co.	36- 4-17	574	idle
Holbrook Oil Co., No. 1 Newhall, Los Angeles Co.	28- 4-16	4,462	gr. sd. drlg.
Selegna Oil Co., No. 3 Wilmington, Los Angeles Co.	33- 4-13	3,588	recmtd. 3,200
General Pet., No. 2-E Wilmington, Los Angeles	5- 5-13	3,600	flow. 380 b.d.
General Pet., No. 4-E Wilmington, Los Angeles	5- 5-13	3,622	completing
General Pet., No. 1-F Wilmington, Los Angeles	33- 4-13	3,560	flow. 490 b.d.
General Pet., No. 1 Ford, Wilmington, Los Angeles	4- 5-13	2,476	P.B. 520
General Pet., No. 2 Ford, Wilmington, Los Angeles	4- 5-13	2,361	sd. sh. drlg.
General Pet., No. 3 Ford, Wilmington, Los Angeles	4- 5-13	1,652	sd. sh. drlg.
Getty Oil Co., No. 3 Wilmington, Los Angeles Co.	33- 4-13	3,575	C.P. 3,140
Getty Oil Co., No. 4 Wilmington, Los Angeles Co.	33- 4-13	2,414	sd. sh. drlg.
Getty Oil Co., No. 6 Wilmington, Los Angeles Co.	33- 4-13	1,511	sd. sh. drlg.
Brain, Cooper & Haney, No. 1 Wilmington, L. Ang.	33- 4-13	3,645	P.B. 3,590
Bankline Oil, No. 1-T Wilmington, Los Angeles	33- 4-13	3,315	flow. 340 b.d.
Bankline Oil, No. 1 C.Y., Wilmington, Los Angeles	34- 4-13	3,295	sd. sh. drlg.
Crail Bros., Inc., No. 1 Wilmington, Los Angeles	33- 4-13	1,650	sd. sh. drlg.
Pongratz Oil Co., No. 1 Wilmington, Los Angeles	33- 4-13	2,175	sd. sh. drlg.
Union Pacific R.R., No. 1 Wilmington, Los Angeles	4- 5-13	2,890	sd. sh. drlg.
Union Pacific R.R., No. 2 Wilmington, Los Angeles	4- 5-13	2,420	sd. sh. drlg.
Union Pacific R.R., No. 3 Wilmington, Los Angeles	4- 5-13	2,417	sd. sh. drlg.
Union Pacific R.R., No. 5 Wilmington, Los Angeles	4- 5-13	1,930	sd. sh. drlg.
Wilbur, V.R.G., No. 1 Wilmington, Los Angeles Co.	4- 5-13	3,592	rig. to pump
Ring Oil Co., No. 1 Wilmington, Los Angeles Co.	33- 4-13	2,340	sd. sh. drlg.
Royalty Service, No. 22-7 Wilmington, Los Angeles	33- 4-13	3,580	sd. sh. drlg.
Royalty Service, No. 21-5 Wilmington, Los Angeles	34- 4-13	2,461	sd. sh. drlg.
Royalty Service, No. 2-C Wilmington, Los Angeles	5- 5-13	3,758	P.B. 3,685
Hall, F. C., No. 1 Wilmington, Los Angeles Co.	5- 5-13	3,611	flow. 450 b.d.
Gilmore Oil Co., No. 842-1 Wilmington, Los Angeles	33- 4-13	2,975	sd. sh. drlg.
Gauthier Oil Co., No. 2 Wilmington, Los Angeles	27- 4-13	3,600	reaming
Drillers, Inc., No. 1 Whittier, Los Angeles Co.	22- 2-11	1,271	sd. sh. drlg.
Honolulu Oil Corp., No. 1 Puente, Los Angeles Co.	15- 2-10	3,777	dry; abd.
Richfield Oil, No. 2 Nutt, Montebello, Los Angeles	5- 2-11	5,856	will P.B.
Richfield Oil, No. 1 Estrada, Montebello, Los Angeles	5- 2-11	4,173	sd. sh. drlg.
The Texas, No. 16 Baldwin, Montebello, Los Angeles	6- 2-11	5,425	sd. sh. drlg.
St. Helens Pet., No. 6 P.&B., Montebello, Los Angeles	5- 2-11	7,199	C.P. 6,110
Union Oil Co., No. 26 Montebello, Los Angeles Co.	1- 2-12	3,643	sd. sh. drlg.
The Texas, No. 13-H.K., Long Beach, Los Angeles	19- 4-12	2,520	sd. sh. drlg.
Hilltop Oil Co., No. 1 Long Beach, Los Angeles	19- 4-12	1,750	sd. sh. drlg.
Hobbs Pet. Corp., No. 1 Long Beach, Los Angeles	29- 4-12	2,960	pump. 20 b.d.
Hathaway, No. 2 Fulton, Santa Fe Spgs., L. Angeles	6- 3-11	4,650	redrlg. 4,180
Union Oil Co. No. 100 Santa Fe Spgs., Los Angeles	6- 3-11	10,535	sd. sh. drlg.
Julian & Criswell, No. 1 Walnut, Los Angeles Co.	5- 2- 9	1,376	hd. sh. drlg.
Petroleum Co., No. 5 Wilson, Huntington, Orange	2- 6-11	3,900	pump. 70 b.d.
Re-Mine Oil Co., No. 2 Huntington, Orange Co.	2- 6-11	4,570	rig. to pump
The Texas Co., No. 8 Brown, Huntington, Orange	11- 6-11	2,996	sd. sh. drlg.
Richrow Oil Co., No. 2 Huntington, Orange	34- 5-11	4,316	sd. sh. drlg.
Orco Oil Co., No. 5 Huntington, Orange Co.	2- 6-11	4,697	fish. D.P.
Union Oil Co., No. 24-C Huntington, Orange Co.	34- 5-11	2,050	sd. sh. drlg.
Commander Oil Co., No. 1 Newport, Orange Co.	29- 6-10	6,053	cleaning out
Fullerton Oil Co., No. 20 Brea, Orange Co.	2- 3-10	5,163	sd. sh. drlg.
Standard Oil, No. 63 Emery, West Coyote, Orange	24- 3-11	411	sd. sh. drlg.
Hogan Pet. Co., No. 1 Emery, West Coyote, Orange	23- 3-11	630	sd. sh. drlg.
Bandini Pet. Co., No. 1 East Coyote, Orange Co.	17- 3- 9	2,855	rig. to pump
Dolicia Oil Co., No. 2 East Coyote, Orange Co.	24- 3-10	3,534	cleaning out
Tide Water A. O. Co., No. 52 East Coyote, Orange	13- 3-10	3,487	redrlg. 3,375
Standard Oil Co., No. 2-8 East Coyote, Orange Co.	22- 3-10	3,796	sd. sh. drlg.
Shell Oil Co., No. 1 Mathis, Anaheim, Orange Co.	23- 4-10	4,537	sd. sh. drlg.
Joseph, Arthur, No. 1 Richfield, Orange Co.	29- 3- 9	2,340	sd. sh. drlg.
Principal Oil Co., No. 1 Richfield, Orange Co.	36- 3- 9	1,570	sd. sh. drlg.
Bachman Pet. Co., No. 1 Richfield, Orange Co.	29- 3- 9	3,810	rig. to pump
Union Oil Co., No. 29 Chapman, Richfield, Orange	30- 3- 9	8,610	idle
Union Oil Co., No. 44 Chapman, Richfield, Orange	29- 3- 9	3,465	bailing
Union Oil Co., No. 45 Chapman, Richfield, Orange	29- 3- 9	3,469	rig. to pump
Union Oil Co., No. 8 Coyle, Richfield, Orange Co.	29- 3- 9	3,100	sd. sh. drlg.

KANSAS

Week ending March 27 (Descriptions are east unless marked otherwise)

Barton County

C. L. Carlock No. 1 Ehly, NE NE SE sec. 5-18-11w. Rig.

C. L. Carlock et al No. 1 Leibel, SE NE SE sec. 18-18-11w. Anhy. 681 ft.; fsg. 1,-860 ft.

George Dickey et al No. 1 Boger, SE SE NE sec. 15-16-13w. R.R.

Hendon Drlg. Co. and Morgan & Flynn No. 1 Robenseifer, C NW sec. 7-18-15w. Drlg. 777 ft.

Hutchinson O. & G. Co. No. 1 Wendel, NE cor. sec. 13-19-11w. Sil. 3,346 ft.; T.D. 3,373 ft.; D.&A.

Indian Terr. Illm. Oil Co. No. 1 Schrapel, SE SE NE sec. 26-20-11w. Sil. 3,269 ft.; S.S.O.; set 6-in. 3,269 ft.

S. L. Parks No. 1 Peach, SE cor. sec. 24-16-14w. Drlg. 2,670 ft.

C. L. Price et al No. 1 Kraft, SW NW NE sec. 10-17-11w. Drlg. 2,590 ft.

Stanolind O. & G. Co. No. 2 Burmeister, NE NE SW sec. 33-19-11w. T.D. 3,363 ft.; D.&A.

E. F. Wakefield et al No. 1 Scheuerman, NE NE SW sec. 31-16-15w. R.U.

C. H. Weaver et al No. 1 Stumps, NE cor. sec. 3-17-12w. M.I.M.

Ralph Wixson and Union O. & G. Co. No. 1 Frederick, NW cor. sec. 12-16-13w. Drlg. 865 ft.

Butler County

A. M. Landon et al No. 1 McCaig, NE NE SE sec. 13-28-6. Sd. 2,720-40 ft., T.D.; 500 ft. O.I.H.

Rex & Morris No. 1 Gilmore, SE SE NE sec. 13-25-6. Loc. abd.

Sid Neff et al No. 1 Church, SW NE SE sec. 8-28-5. O.W.D.D.; drlg. 785 ft.

C. L. Seibel et al No. 1 Bisagno, SE SE NW sec. 24-25-6e. T.D. 600 ft.; set 12-in.

Vickers Pet. Co. No. 1 Voth, C N½ NE NE Sec. 32-24-4e. Drlg. 255 ft.

Chase County

Propp et al No. 1 Fromm, SE cor. sec. 29-18-9e. Fsg. 2,440 ft.

Chautauqua County

Hugh & Wentz No. 1 Wells, SE SE NW sec. 10-33-10. Spudded.

Ira Scott et al No. 1 Lamba, SW NW NE sec. 18-33-13. R.U.M.

E. J. Shaffer No. 1 Nuckolls, NW cor. sec. 12-33-19. Drlg. 890 ft.

W. M. McKnabb No. 1 Griffith, SW cor. sec. 11-32-10. Drlg. 70 ft.

Cowley County

Bess & Gralapp et al No. 1 Wakefield, NE SE SW sec. 18-30-6. M.I.M.

Elmer Ash et al No. 1 Bolack, NW NW SE sec. 22-32-6. Cellar.

W. M. McKnabb No. 1 Community, C NE NW sec. 14-34-3e. O.W.D.D.; drlg. 3,-595 ft.

W. M. McKnabb No. 1 Weldschmidt, SW SW NW sec. 18-34-6e. Chat 3,032 ft.; drlg. 3,275 ft.

Tom Palmer No. 1-A Lowe, SW SE SE sec. 3-32-5. Drlg. 1,400 ft.

Ryan Consolidated Co. No. 1 Couch, SW SW SE sec. 13-30-5. Drlg. 920 ft.

L. H. Wentz and Amerada Pet. Corp. No. 1 Rush, NW SW SW sec. 36-34-6e. H.F. W. 2,015 ft.; U.R. 10-in. csg. 2,059 ft.

Decatur County

C. L. Bruce et al No. 1 Newbold, C NE SE sec. 34-2s-28w. M.I.M.

Winkler & Koch No. 1 Vessey, C NW SE sec. 26-3-26w. Quartzite 4,128 ft.; T.D. 4,149½ ft.; D.&A.

Elk County

L. H. Wentz et al No. 1 Love, SW SE NE sec. 35-30-9. R.U.

Ellis County

Bridgeport Machine Co. et al No. 1 Froelick, NW NW SE sec. 4-13-16w. Drlg. 600 ft.

Empire O. & R. Co. No. 1 Hall, SE cor. sec. 2-12-17w. Sil. 3,697-3,702 ft.; 4 B. W.P.H.; U.R.

Ted Kors et al No. 1 Koblitz, SE SW NW sec. 23-12-18w. Pay 3,694-98 ft.; swb. 48 B.O. and swbd. down; T.D. 3,699 ft.; P.B. 3,697½ ft.; P. 13 B.O. and pumped off.

Lario O. & G. Co. et al No. 1 Cress, NE cor. sec. 13-11-17w. Sil. 3,293 ft. (cor.); T.D. 3,302½ ft.; pot. 2,362 bbls.; oil; comp.

Mazda Oil Co. No. 1 Henderson, SW SW NE sec. 27-11-18w. Spudded.

Murphy Oil Co. No. 1 Wiesner, SE SE SW sec. 12-14-19w. U.R. 8-in. csg. at 3,470 ft.

Noble Pet. Corp. No. 1 O'Laughlin, NW NW SE sec. 13-12-19w. Drlg. 1,535 ft.

Sunray Oil Co. No. 1 Beiort, NE cor. sec. 11-14-20w. Cong. 3,835 ft.; LaMotte 3,887 ft.; showing wtr.; S.D. 3,903 ft.

Earl Wakefield No. 1 Putnam Mortgage Co., SE SE NW sec. 32-15-17w. Drlg. 860 ft.

Winkler & Koch No. 1 Jensen, SW SW NE sec. 3-13-18w. S.D. 80 ft.

Ellsworth County

Frost et al No. 1 Dolechek, NE NE SW sec. 36-14-8w. Anhy. 570 ft.; drlg. 1,-870 ft.

Orville Lea No. 1 Larkin, NW cor. sec. 15-16-8w. B.R.

Finney County

Keith & Olson Drlg. Co. No. 1 Ely, NW NW SW sec. 34-22-29w. Sd. 4,644-55 ft.; drlg. 4,795 ft.

Grant County

Columbian Fuel Co. No. 1 Gray, C SE sec. 3-29-35w. T.D. 2,760 ft.; 5,000,000 ft. gas; comp.

Greenwood County

L. S. Bolwanz No. 1 Travelers, C SW SW sec. 23-26-10. Spd.

Lauck & Moncrief No. 1 Gruber, NW cor. sec. 5-23-13. Set 8-in. csg. 1,497 ft.

Ohio Oil Co. No. 1 Schwab, SE SW SE sec. 9-24-10. Viola 2,763-66 ft.; cmtd. 5,-in. csg. at 2,763 ft.; P. 1 B.O. and ½ B.W. per hr.

Dr. Shippey No. 1 Boone, NE NE NW sec. 21-26-12. O.W.D.D.; drlg. 1,637 ft.

Shull Drlg. Co. No. 1 Cannon, NE SE NE sec. 23-25-12. R.U.M.

Harper County

Carter Oil Co. et al No. 1 Seihart Est., C SW NW sec. 4-34-8w. K.C. 4,035 ft.; drlg. ahead.

Harvey County

Harburney Oil Co. No. 1 Schrag, NW NW SE sec. 24-22-3w. Viola 3,695 ft.; Wilcox 3,711 ft.; fsg.

E. J. Shaffer et al No. 1 Epp, SE cor. sec. 15-23-3w. Loc.

Haskell County

Kuhn Bros. et al No. 1 Meredith, C SW sec. 10-30-33w. O.W.D.D.; Bridge 2,520 ft.; C.O.

Kearny County

J. L. Murphy No. 1 Campbell, NW NW SW sec. 32-25-35w. Anhy. 1,900 ft.; set 7-in. csg. at 2,780 ft.; S.D.

J. L. Murphy No. 1 Masonic Home, C NW sec. 1-26-36w. M.I.M.

Logan County

Rose Spring Drlg. Co. et al No. 1 Wright, C SE SE sec. 12-15-35w. Drlg. 3,940 ft.

Lyon County

Davis & Sory No. 1 Byrd, SW SW SE sec. 32-21-11. R.U.M.

Young et al No. 1-A Murphy, SE NW NE sec. 32-21-11. Fsg. 1,380 ft.

McPherson County

Bradley Bros. No. 1 Barnholt, SW SW SE sec. 30-20-5w. Drlg. 175 ft.

Fred C. Frank et al No. 1 Doles, SE NW NE sec. 12-19-1w. S.D. 550 ft.

Hutchinson O. & G. Co. et al No. 1 Berg, SW SW SE sec. 15-20-3w. Drlg. 2,620 ft.

Smith et al No. 1 Larson, NW NW SW sec. 35-18-5w. M.I.M.

Wamhoff et al No. 1 Nuse, SE NE SW sec. 18-18-4w. R.U.R.

Mitchell County

Geo. Siedhoff et al No. 1 Greiss, SW SW SE sec. 16-8-10w. Set 8-in. at 2,149 ft.; C.O. 2,288 ft.

Ness County

Jones & Lane No. 1 Page Milling Co., SE SE NW sec. 36-18-26w. Rig.

Newton Dev. Co. No. 1 Tenny, NW NW SE sec. 19-18-25w. Drlg. 4,005 ft.

Patton & Paul No. 1 Lank, SE SE SW sec. 35-18-21w. Loc.

Pratt County

H. V. Elwell et al No. 1 Fay, NW NW SE sec. 15-27-14w. Whipstock 2,580 ft.; S.D.

Reno County

Atlantic Ref. Co. No. 1 Page, SE NW NW sec. 19-23-7w. Fsg. 3,681 ft.

Foraker et al No. 1 Hiett, SE SW NE sec. 34-24-4w. Wilcox 3,925 ft.; drlg. 3,-960 ft.

Helmerich & Payne No. 1 Benson, NE cor. sec. 5-25-6w. Viola 4,088 ft.; Wilcox 4,130 ft.; Sil. 4,183 ft.; cd. 4,185-95 ft., T.D.; D.&A.

Helmerich & Payne et al No. 1 Evans, NE NE SE sec. 29-24-6w. Abd. loc.

Imo O. & G. Co. and others No. 1 Watkins, SE cor. sec. 14-22-7w. Spudded.

Clyde Pulse No. 1 Payne, SW NW SE sec. 4-22-7w. Cong. 3,398 ft.; Chat. 3,426 ft.; H.F.W. 3,440 ft.; T.D.; P.B. 4,244 ft.; 500 ft. O.I.H.

Olson Drlg. Co. et al No 1 Herriman, NW cor. sec. 22-24-8w. Drlg. 1,325 ft.

Sinclair Prairie Oil Co. No. 1 Natt, NW NW SE sec. 32-26-4w. Loc.

Earl Wakefield and Shell Pet. Corp. No. 1 Yoder, SW cor. sec. 34-24-5w. T.D. 3,-463 ft.; D.&A.

Westgate-Greenland Oil Co. No. 1 O'Sullivan, SW SW NE sec. 24-23-5. Drlg. 3,300 ft.

Rice County

Bradley Oil Co. et al No. 1 Ginter heirs, NW cor. sec. 13-20-8w. Loc.

Buckley No. 1 Bailey, SW SW NW sec. 19-20-6w. S.D. 1,000 ft.

Continental Oil Co. et al No. 1 Michekls, NE NE SW sec. 12-18-8w. T.D. 3,212 ft.; pot. 1,241 B.O.; comp.

L. E. Douglass No. 1 Coyne, NE SE SE sec. 24-21-8w. Drlg. 1,725 ft.

Hanna et al No. 1 Brothers, SE SE NW sec. 25-20-8w. Cong. 3,309 ft.; drlg. 3,-313 ft.

John Hanna et al No. 1 Fulton, NW NW NE sec. 24-10-6w. Drlg. 2,205 ft.

T. C. Johnson No. 1 Shubert, SW cor. sec. 9-20-10w. Anhy. 474 ft.; U.R. 2,365 ft.

Manning & Martin et al No. 1 Mathes, SE SW NE sec. 27-21-8w. Viola 3,584 ft.; Simpson 3,645 ft.; S.D. 3,685 ft.

Fred Phillips et al No. 1 Hubenett, SW NW SW sec. 23-20-6w. Spudded.

Roy Ramsey et al No. 1 Malone, NW NW NE sec. 1-20-10w. K.C. 2,962 ft.; drlg. 2,985 ft.

Skelly Oil Co. & Ewers Simpson Oil Corp. No. 1 Linville, SW NW NE sec. 2-20-10w. Drlg. 1,375 ft.

C. E. W. Skiles et al No. 1 Helmer, NW NW NE sec. 7-19-8w. M.I.M.

Union Oil & Refining Co. et al No. 1 Baker, SW SW NE sec. 33-20-6w. Drlg. 487 ft.

W. E. Witt et al No. 1 Fair, NW SE SE sec. 4-22-8w. Drlg. 200 ft.

Rooks County

Basin Oil Co. No. 1 Baxa, NE cor. sec. 23-9-17w. Anhy. 1,437 ft.; drlg. 2,460 ft.

Buckner & Schoff No. 1 McConnel, NE cor. sec. 34-6s-18w. S.D. 3,100 ft.

Graham et al No. 1 Fike, SW cor. sec. 9-9-17w. T.D. 3,301 ft.

Jones Bros. No. 1 Wiss, NW cor. sec. 8-10-18w. Drlg. 1,275 ft.

J. H. Lester No. 1 Methene, SE SE NE sec. 29-10-20w. Fsg. 3,422 ft.

Phillips Pet. Co. No. 1 Mainquist, SW SW NW sec. 9-9-17w. Drlg. 440 ft.

Snowden & McSweeney No. 1 Hindman, C E½ NW sec. 35-7s-17w. H.F.W. 3,180 ft., T.D.; P.B. to 3,118 ft.; swbd. 25 B.O. and 100 B.W., 24 hrs.

Twin Drlg. Co. No. 1 Doughty, SW cor. sec. 15-8-19w. O.W.D.D.; drlg. 3,248 ft.

Rush County

S. A. Murphy et al No. 1 Roth, NW NW SW sec. 21-16-18w. Anhy. 1,159 ft.; drlg. 1,176 ft.

Russell County

Empire O. & R. Co. No. 1 Vaughn, SW cor. sec. 17-14-14w. K.C. 3,015 ft.; T.D. 3,031 ft.; 2,000 ft. O.I.H.; flowing.

Equity Gas Co. No. 1 Harbaugh, NW NE SW sec. 19-13-12w. Set 10-in. csg. 780 ft. W.O.C.

Goldstein and Vernon Oil & Gas Co. No. 1 Steinert Estate, NE SE NW sec. 34-15-15w. M.I.M.

S. M. Murphy et al No. 1 Deines, SE SE SW sec. 36-15-15w. R.U.

Shields et al No. 1 Gross, NW NW SE sec. 5-15-13w. Loc.

Saline County

Ryan Consd. No. 1 Wuerth, SW SW NW sec. 28-14-2w. Fsg. 1,870 ft.

Sedgwick County

Cameron et al No. 1 Smith, SW SE SE sec. 13-27-2e. Fsg. 2,782 ft.
Empire O. & R. Co. No. 1 Kimel, NW cor. sec. 4-29-2w. Drlg. 1,000 ft.
Roxana Drlg. Co. et al No. 1 Woodman, SW NW SW sec. 26-26-1w. Drlg. 1,300 ft.
E. B. Shawver No. 1 Furman, SW NE SE sec. 24-29-3w. R.U.
E. M. Swearer et al No. 1 Thome, SW SW NW sec. 19-28-1w. K.C. 2,827 ft.; Chat 3,410 ft.; S.O. 3,430 ft.; cd. 3,438-55 ft., oil stain.

Stafford County

Empire Ref. Co. et al No. 1 Jordon, SW SW NW sec. 15-25-14w. Simp. 4,210 ft.; Sil. 4,252 ft.; T.D. 4,267 ft.; sulfur wtr.; P.B. 3,840 ft.; pot. 2,035 B.O.; comp.
Empire O. & R. Co. No. 1 O'Connor, NE cor. sec. 17-24-15w. Sil. 4,083 ft.; T.D. 4,129 ft.; 1,543,000 ft. gas and spraying sulfur wtr.; P.B. 4,108 ft.; W.O.C.
W. P. Faulkner No. 1 Schulz, SE SE NE sec. 6-22-13w. Rig.
Rose Spring Drlg. Co. et al No. 1 Gray, NW cor. sec. 11-24-13w. M.I.M.
J. E. Trigg and Vernon Oil & Gas Co. No. 1 Andrea, SE cor. sec. 4-23-12w. Anhy. 615 ft.; drlg. 3,150 ft.

Sumner County

Graham et al No. 1 Dawson, NW NW NW sec. 4-33-2w. L. 3,917 ft.; fsg. 4,008 ft.
Olson Drlg. Co. et al No. 1 Barr, SE cor. sec. 8-34-2w. B.R.R.
Orcott & Stewart No. 1 Newton, SE cor. sec. 21-30-2. O.W.W.D.; S.D. 930 ft.
E. B. Shawver et al No. 1 Bryan, C W½ W½ SW sec. 36-30-2w. Drlg. 2,022 ft.
Texas Co. No. 1 Harper, NE SW SE sec. 9-20-3w. Fsg. 1,006 ft.
C. H. Westfall et al No. 1 Rogers, SW NW SW sec. 35-31-2w. Wilcox 4,247½ ft.; Sil. 4,353-4,406 ft., T.D.; D.&A.

Trego County

Black Gold Oil Co. No. 1 Allman, C SW SW sec. 34-14-21w. Sil. 3,890 ft.; cd. 3,912-23 ft.; no shows.

Woodson County

Harper et al No. 1 Weidle, SE SE NE sec. 10-24-14. Drlg. 2,013 ft.
Reamer No. 1 Corn, NE cor. sec. 31-26-15. Drlg. 1,820 ft.
C. L. Sheedy No. 2 Fulhage, C S½ NW SE sec. 27-25-14. T.D. 1,568 ft.; D.&A.
Fields et al No. 1 Trout, NE NE SW sec. 5-8s-7w. Drlg. 2,194 ft.
Gulf Oil Corp. No. 1 Woodworth, NW NW NE sec. 20-3s-4w. Loc.
Heenan & Coe et al No. 1 Rose, C SW SW sec. 1-5s-5w. Drk.
Massad & Swansberger No. 1 Barrett, NE cor. SE SE sec. 14-6s-6w. Sd. 1,530-34 ft.; S.O.; cored shale at 1,534-38 ft.; S.D.

Johnston County

Patton et al No. 1 McCrummens, SW SW NE sec. 16-1s-6e. T.D. 1,155 ft.; S.D.

Love County

W. H. Riddle et al No. 1 Johnson, C SW SE cor. sec. 20-8s-2w. T.D. 4,009 ft.; abd.
Sinclair Prairie Oil Co. No. 1 Stockton, SE SE SW sec. 26-6s-2w. T.D. 8,583 ft.; P.B. 6,927 ft.; fsg. for tubg. at 5,288 ft.

Marshall County

Stuart & Taylor No. 1 Chestnut, NE cor. sec. 23-8s-5e. T.D. 803 ft.; set 5⅛-pipe at 777 ft.

Murray County

Power Oil Co. et al No. 1 Lancaster Trust, C SW NE sec. 10-1s-2e. T.D. 3,438 ft.; P.B. to 3,175 ft.; W.O.C.
J. Ben Russell No. 1 fee, SE SE NW SE sec. 9-2s-3e. Drlg. 1,376 ft.

Stephens County

William Angle No. 1 Posey, C NW NW sec. 8-1n-8w. Top L. 4,483 ft.; T.D. 4,759 ft.; will core.
Carter Oil Co. No. 1 Harley, C NE NE sec. 24-2s-4w. Drlg. 3,967 ft.
H. J. Edwards No. 1 Frederick, SW cor. NE SE NW sec. 31-2n-8w. T.D. 2,754 ft.; will install machine.
Helmerich & Payne No. 1 Graham, SW SW NE sec. 12-1n-5w. T.D. 5,014 ft.; contract depth; Schlumberger test.
B. F. Lundy No. 1 Calmes, NW SW SE sec. 35-1n-4w. Drlg. 2,430 ft.

Tillman County

Indian Terr. Ill. Oil Co. No. 1 Hatler, C SW NE sec. 32-2s-17w. T.D. 5,169 ft.; P.B. to 4,525 ft.; P. 78 B.O. and 5 B.W.; comp.
D. S. Smith No. 1-A Hamil, NE NW NW sec. 6-5s-15w. Fsg.; T.D. 2,425 ft.

OKLAHOMA

Week ending March 27

NORTHERN OKLAHOMA

Beckham County

Carter Oil Co. No. 1 Garrett, NE cor. sec. 11-7n-25w. Drlg. 2,069 ft.
Mid-American Oil Co. No. 1-A Biscoe, SW cor. sec. 28-8-22w. T.D. 920 ft.; S.D. for repairs.

Caddo County

Clyde Becker et al No. 1 Pharris, SE SE NW sec. 24-6-12w. R.U.R.

Cleveland County

W. R. Hollenbeck No. 1 Norman, NW NW NE sec. 17-9-2w. Drlg. 2,555 ft.

Coal County

Ruwoldt & Couch No. 1 McMillan, SW cor. sec. 10-1s-8. T.D. 1,343 ft.; lowering csg.

Creek County

J. E. Crosbie, Inc. & Sinclair Prairie Oil Co. No. 1 Bailey, NE NW NW sec. 28-15-7. Drlg. 3,185 ft.
M. W. Mosier et al No. 1 Holcomb, SE SW NW sec. 19-18-8. Fsg. 2,935 ft.
Comail Oil Co. et al No. 1 Hall, SW SW NE sec. 2-15-7. Oswego 2,435 ft.; drlg. 2,465 ft.

Garfield County

Arab Oil Co. No. 1 Harkendorf, NE cor. sec. 34-20-3w. Oread 4,200 ft.; drlg. 4,200 ft.
Ohio Oil Co. No. 1 State, SW cor. sec. 13-23-3w. Bldg. rig.

Garvin County

Hayes Drlg. Co. No. 1 Howell, NW SE NW sec. 34-1-1. Rig.

Grady County

Western White Lily Oil Co. No. 1 Stover, SE SW NW sec. 33-3n-7w. T.D. 1,770 ft.; fsg.

Haskell County

Continental Oil Co. No. 1 Anderson, SW SE NE sec. 33-8-20. Loc.

Harmon County

Penn State Oil Co. No. 1 Cole, C W½ SW NW sec. 21-2n-26w. T.D. 220 ft.; R.U.R.

Hughes County

W. W. Bassett No. 1 Field, C NW SW sec. 11-9-11. S.D.
Carson Oil Co. No. 1 Lyter, NE NW SW sec. 31-8-12. Wilcox 4,912 ft.; T.D. 4,940 ft.; tstg.
Mid-Western Prod. Co. No. 1 Hill C SE NW sec. 13-9-9. 22,000,000 ft. gas at 2,884 ft.; dry sand, 2,890-2,904 ft.; T.D. 2,942 ft.; S.D.
C. J. Wrightsman No. 1-A Diamond, NE NE SE sec. 33-9-9. Second Crom. 3,360 ft.; T.D. 3,390 ft.; 12,000,000 ft. gas and trace of S.W.

Kay County

Fortuna Oil Co. No. 1-A Harris, SW SW NE sec. 14-25-1e. Drlg. 2,383 ft.

Kiowa County

Argus Pet. Co. No. 1 Osborne, NW cor. NE sec. 9-7-16w. T.D. 1,225 ft.; fsg.
Kiowa Oil Corp. No. 1 Finder, C SW NE sec. 4-6-20w. Machine.
McWhirter & Francis No. 1 Padgett, NE NE NW SE sec. 3-5-17w. S.D. 610 ft.

Latimer County

Clark Drlg. Co. et al No. 1 Wilson, C SE SE sec. 15-5-18. Sand 3,649 ft.; T.D. 3,760 ft.; S.D.

Lincoln County

Anderson-Prichard Oil Corp. No. 1 Colon, C N½ SE SW sec. 28-17-4e. 2nd Wilcox 4,387 ft.; show wtr.; P.B. 4,382 ft.

Logan County

Anthony & Marshall No. 1 Fruin-Eckman, SE SE SW sec. 4-16-1e. Swbd. wtr. 4,975 ft.
Harry Blackstock No. 1 Prince, SE NE SW sec. 11-17-3w. Drlg. 6,431 ft.
Helmerich & Payne et al No. 1 Ruck, C NE SE sec. 9-19-2w. Oread 3,060 ft.; drlg. 3,790 ft.

Muskogee County

A. D. Spears et al No. 1 Robbins, NW cor. sec. 20-15-20. Turkey Mt. sd. 1,677-84 ft.; Arbuckle 1,710 ft.; T.D. 1,811 ft.; S.S.O.; S.D.

Noble County

Lincoln Oil Co. et al No. 1-A Neil, NE cor. sec. 15-23-2w. Drlg. 2,207 ft.

Okfuskee County

Mid-Continent Pet. Corp. No. 1 Gofford, NE NE NW sec. 35-12-7e. Spudding.

Osage County

Norbla Oil Co. No. 1 Osage, NE NE SW sec. 13-23-6. T.D. 760 ft.; running whipstock.

Pawnee County

Forest Dev. Corp. No. 1 Markham, SW NE SE sec. 10-21-5e. Drlg. 2,440 ft.

Payne County

Bill Riddle No. 1 Van Zandt, NW NW SE sec. 16-18-3e. T.D. 2,128 ft.; R.U.S.T.

Pontotoc County

E. H. Moore et al No. 1 Muse, SW NE SE sec. 33-2n-7. Wilcox 5,185 ft.; tested slty. mud; shot off 7-in. pipe 4,181 ft.; P.B.

Pottawatomie County

Champlin Ref. Co. No. 1 Buckler, SE NE NE sec. 7-6-4e. Drlg. 3,795 ft.
Mid-Continent Pet. Corp. No. 1-A Logan, NE NE SE sec. 31-11-5. Drlg. 3,600 ft.

Pushmataha County

Erle Halliburton et al No. 1 Bagwell, SW NE NE sec. 30-3s-15e. Drlg. 1,298 ft.

Seminole County

Amerada Pet. Corp. et al No. 1 Fore A, SW cor. sec. 12-9-7. Cromwell 3,400-03 ft., T.D.; swb. ½-bbl. oil 5 ballers wtr.; P.H.
J. E. Hall et al No. 1 White, SE NW SE sec. 30-6-8. T.D. 2,610 ft.; swbd. 5 bbls. fluid P.H., 75% wtr.; will P.B.
J. H. Hudson et al No. 1 Tanyan, SE SE SW sec. 32-10-7. Booch sd. 3,605-15 ft., dry; drlg. ahead.
R. M. Purcell No. 1 Gilliland, SE SE SW sec. 24-11-7. Loc.
Sinclair Prairie Oil Co. No. 1 Rossanna, NW NW SW sec. 28-10-8. Base Cromwell 3,454 ft.; drlg. 3,805 ft.

Texas County

Cabot Carbon Co. No. 1 Castro, C SE sec. 19-3n-17ecm. T.D. 2,570 ft.; set csg.
Missouri Valley Gas Corp. No. 1 well, C sec. 17-6n-14ecm. Rig.

Washita County

John Koberg No. 1 Harms, NW NW NE sec. 6-10-16w. Drk.
L. P. McWhirten No. 1 fee, SW cor. sec. 34-8-19w. T.D. 1,754 ft. S.D. for csg.

SOUTHERN OKLAHOMA

Atoka County

A. J. Sanders No. 3 Redden, SE SW SW sec. 19-1n-15e. T.D. 1,275 ft. in sand; S.O.; to move in rotary.

Carter County

Helmerich & Payne No. 1 Wolverton, SE NE NW sec. 21-3s-1w. Loc.
Lyle-Wham Dev. Co. No. 1 Jackson, NE SW SW sec. 26-5s-1e. T.D. 881 ft.; S.D.O.

Choctaw County

Cooper & Branstetter No. 1 Bell, C NW NE sec. 29-6s-17. T.D. 1,151 ft. (cor.); S.D.

Comanche County

E. B. Hane No. 1 Duper, NW cor. sec. 21-2n-13w. S.D. 250 ft.
C. V. Morris No. 1 Young, SE NE SE sec. 24-3n-10w. T.D. 822 ft.; S.D.

Jefferson County

Buffalo Oil Co. No. 1 Crownover, SE SE NW sec. 21-6s-6w. Drlg. 2,160 ft.
Dodson, Wells-Pierson No. 1 Key, SE SE NW sec. 6-8s-6w. Drlg. 2,904 ft.

ARKANSAS

Clark County

W. M. Martin No. 1 Coke, NW sec. 14-10-20. Loc.

Grant County

Wallace & Staples No. 1 W. F. Davis, SE SE NW sec. 23-6-15. Jnkd. first hole; T.D. 2,382 ft. Fsg.

Hempstead County

Birdwell et al No. 1 Duckett, SW NW SW sec. 24-13-24. Drlg. 200 ft.
Imperial Oil Prod. Co. No. 1 Foster Est., sec. 35-12-26. T.D. 3,683 ft.; D.&A.
Root Pet. Co. No. 1 Lucey E. Drake, SE SE NW sec. 24-14s-24w. Drlg. 3,650 ft.
Shephert & Todd et al No. 1 Smith, NW SW SE sec. 11-11-25. T.D. 600 ft.; S.D. fuel.

Lafayette County

Carl B. King Drlg. Co. No. 1 Eben H. Woolcott, NE cor. sec. 36-19-26. Drlg. 3,800 ft.
A. M. Neeley No. 1 Meek, NE NE NW sec. 35-19-25. S.D. 3,159 ft.

Little River County

Joe Strahan No. 1 Dierks, SW SE sec. 21-12-28. S.D. 2,045 ft.

Miller County

Nivla Oil Corp. No. 1 M.&P. Bank, NE SE SE sec. 18-15-26. R.U.

Miller County—Rodessa

Allred & Allred No. 1 E. A. Rector, SE W½ W½, sec. 16-20-28. Loc.
Tony DeGrazier No. 1 E. A. Rector, SE sec. 17-20-28, on 2-ac. tr. Loc.
Layton No. 1 Rector, SE cor. 130-ac. tr., sec. 17-20-28. Loc.
McClanahan et al No. 1 W. L. Capps, sec. 11-20-28. Drk.

Nevada County

Benedum & Trees No. 1 Block, NE NE SE sec. 9-14-20. Cg. 5,129 ft.
Benedum & Trees No. 2 C. C. Fincher, SW SW NE sec. 10-14-20. Comp.; pmp. 30 B.P.D.; T.D. 1,260 ft.
Benedum & Trees No. 4 C. C. Fincher, SE SW NE sec. 10-14-20. Loc.
Benedum & Trees No. 4 Grove, SE SW NW sec. 10-14-20. Drk.
Benedum & Trees No. 7 Grove, NW SW NW sec. 10-14-20. P.B. to T.D. 1,283 ft.; W.O.C.S.
Benedum & Trees No. 8 Grove, SW SW NW sec. 10-14-20. T.D. 2,173 ft.; W.O. S.R.
Benedum & Trees No. 9 Grove, NE NE SW sec. 10-14-20. R.U.; W.O.
Benedum & Trees No. 1 Mary Jackson, NE NW NE sec. 9-14-20. T.D. 2,134 ft.; W.O.S.R.
Benedum & Trees No. 2 Mary Jackson, SE NE NE sec. 9-14-20. M.I.R.
Benedum & Trees No. 1 A. R. Mitchell, SE SW SE sec. 4-14-20. R.U.
Berry Asphalt No. 1 W. Haynie, NE NE SW sec. 6-14-20. 7-in. 1,191 ft.; T.D. 1,193 ft.; fsg. for swb.
Berry Asphalt Co. No. 2 J. Haynie, NE SE SW sec. 6-14-20. Loc.
J. C. Buckbee No. 1 Wortham, SW SW NW sec. 29-13-21. T.D. 2,340 ft.; D.&A.
Hall & Briscoe No. 2 Ritchie, NE NW SE sec. 10-14-20. R.U.
A. M. Lacy No. 1 H. C. Bennett, SW SE sec. 24-14s-22w. Drk.
John R. Lewis No. 1 W. Haynie, SW SW NE sec. 5-14-20. T.D. 2,123 ft.; D.&A.
Walter Lowd No. 1 T. S. Grayson, SW SW SE sec. 12-14-20. T.D. 2,385 ft.; S.D.; W.O.
W. E. Stewart No. 1 Mendenhall, cen. SE NW NE sec. 1-14-20. First hole abd.; skidded rig 15 ft. E and drlg. 930 ft.
Steel & Warmack No. 1 Wm. Haynie, SE SE NW sec. 6-14-21. T.D. 1,183 ft.; W. O.S.R.
G. H. Vaughn No. 1 Christopher, SW SW SE sec. 3-14-20. Cg. 2,720 ft.

Ouachita County

J. D. Reynolds No. 2 P. C. Grayson, Lot 4, Blk. 10, Stephens Sur., sec. 21-15-19. Bailing; T.D. 1,508 ft.

Saline County

Duncan & Gibbens No. 1 Williams, NW NE sec. 18-3-15. 10-in. cmtd. 104 ft.

Sevier County

C. J. Benkley No. 1 Luther Tabler, NW NE SE sec. 14-10s-29w. S.D. 50 ft.

Union County

Dietrich et al No. 1 Aaronson, NE SW NE sec. 3-18-16. R.U. and W.O.
Lion Oil No. 1 Morgan, sec. 18-18-17. O.W. D.D. (formerly Phillips Pet. Co.); D.S.T. shows flow oil; tstg.; T.D. 5,559 ft.; hvy. shows oil on D.S.; fsg. for drill pipe.
Penn-Ark. Corp No. 1 W. N. Raulston, 330 ft. S and E. NW NW SE sec. 12-17-14. Tstg.; T.D. 2,983 ft.
S. H. A. Oil Corp. No. 1 H. D. Warren, NE SW SW sec. 10-17-14. Drlg. out cmt. 3,342 ft. and W.O.S.R.; T.D. 3,342 ft.

LOUISIANA

NORTH LOUISIANA PROVEN

Caddo—Rodessa

Drillers, Inc., No. 1 Glassell-Means, SW NE SE sec. 9-23-15. R.U.
Gulf Oil No. 1 Campbell, C sec. 4-23-16. Drlg. 2,100 ft.
J. Edw. Jones No. 2-B Sharp, NW C sec. 4-23-16. Rg. 10-in.; T.D. 2,020 ft.
J. Edw. Jones No. 4-A Sharp, SE C sec. 4-23-16. Drlg. 1,415 ft.
Lion Oil Rfg. No. 1 Holm, NW SE SE sec. 9-23-15. Drlg. 4,060 ft.
Lyons & Neely No. 1 Noel, SE cor. sec. 8-23-15. T.D. 6,086 ft.; S.D.; W.O.
Lyons & Neely No. 2 Noel, SW SE SE sec. 8-23-15. T.D. 5,670 ft.; S.D.; W.O.
Magnolia Pet. Co. No. 11-A Caddy Lvy. Bd., SW cor. sec. 21-23-16. T.D. 5,920 ft.; D.S. stk.; fsg.
R. W. Norton No. 1 L. C. Harden, NE sec. 20-23-16. Comp. flw. 76 bbls. 4 hrs.; T.D. 5,980 ft.
R. W. Norton No. 2 L. C. Harden, 585 ft. E. 656 ft. N, SW cor. 56-ac. tr., sec. 20-23-16. R.U.
R. W. Norton No. 1 Payne, C SE SE sec. 27-23-16. Cg. 8,730 ft.
R. W. Norton No. 4 Starke, 1,980 ft. N, 660 ft. E, SW sec. 16-23-16. Drlg. 2,000 ft.
Standard Oil of La. No. 1 Armistead Comm., SW SW SE sec. 4-23-16. Comp. flw. 246 bbls. 12 hrs.; T.D. 6,025 ft.
Standard Oil of La. No. 2 Armistead Comm., SE SE SW scec. 4-23-16. T.D. 6,039 ft.; tstg.
Standard No. 1 W. M. Terry, SE NE SW sec. 9-23-16. Drlg. 3,135 ft.
United Gas No. 6 fee 574, SW NE NW sec. 16-23-16. Loc.
United Gas Co. No. 27 Rodessa O. & L. Co., NE NW sec. 15-23-16. T.D. 5,993 ft.; tstg.
United Gas No. 5 Young, NW sec. 27-23-16. Drlg. 5,623 ft.

N. LOUISIANA WILDCATS

Bienville Parish

DeSoto O. & G. Co. No. 1 Ashley, SW SE sec. 15-16-10w. Loc.
Lide & Greer No. 1 Smelley, 220 ft. N, 160 ft. W, SE SW NE sec. 13-16-5. Perf. and tstg.; T.D. 7,693 ft.
Lide & Greer No. 1 W. J. Smelley, SE NW SW sec. 18-16-4w. Loc.
McDowell et al No. 1 Locke, NE cor. sec. 9-15-10. Drlg. 2,552 ft.

Bossier Parish

Arkansas-La. No. 1 R. Hardeman, SE cor. sec. 6-17-11. Comp.; 26,717,000 ft. gas; T.D. 4,324 ft.
Arkansas-La. No. 1 Tom Wilson, SW sec. 8-17-11. Drlg. 3,480 ft.
Haynes Drlg. Co. No. 1 A. J. Murff, NE SE sec. 35-17-12. Coring 5,205 ft.
Producers O. & G. Co. No. 1 Hill Est., E½ NE¼ sec. 8-17-11. R.U.

Producers O. & G. No. 1 R. Johnson, NE sec. 5-17-11. R.U.
Tidwell et al No. 1 Natting, sec. 15-22-14. T.D. 2,954 ft.; S.D.
Triangle Drlg. Co. No. 1-I Skannal, NE cor. sec. 22-17-12. Comp.; flw. 70 B.P. D.; T.D. 5,170 ft.
Triangle No. 2 Ross Unit, NW SW NW sec. 23-17-12. Drlg. 3,900 ft.
Triangle No. 1-H Skannal, SE SW SW sec. 23-17-12. Comp.; flw. 200 B.P.D.; T.D. 5,180 ft.
United Gas No. 1 Henderson, NE cor. sec. 36-17-12. Cg. 5,240 ft.
United Gas No. 1-H A. C. Skannal, NE SE sec. 26-17-12. T.D. 5,144 ft.; re-acidizing.
United Gas No. 1-I Skannal, SW SW sec. 25-17-12 . Drlg. 3,144 ft.
United No. 1-A Webb, C sec. 23-17-12. 9-in. cmtd. 2,608 ft.; W.O.C.

Caddo Parish

Bayou State No. 1 Stiles, NE NE SW sec. 22-22-15. Drlg. 200 ft.
E. L. Butt and Sam Hill No. 1 Caddo Lvy. Bd., C sec. 8-20-16. Cg. 895 ft.
W. D. Chew No. 3 Rives, NE sec. 5-20-16. 6-in. cmt. 937 ft.; W.O.C.
W. D. Chew No. 4 U. S. Govn., NW sec. 5-20-16. Drk.
C. C. Chew No. 3 Pender, NW NW SW sec. 11-20-15. Cmtd. 6-in. 2,163 ft.; T.D. 2,202 ft. (cor.).
Custer Oil Co. No. 1 Wemple, N½ NW sec. 14-20-15. S.D. 1,650 ft.; rig rep.
D. K. O. Oil Corp. No. 1 Tyson, SE NE sec. 17-21-15. 10-in. cmtd. 100 ft.
DeMaggo et al No. 1 Huckaby, SE NE SE sec. 26-22-16. Drlg. 1,760 ft.
Gulf Ref. Co. No. 1 E. P. Hatcher, 660 ft. N and E, SW cor. SE¼ sec. 11-17-15. Drlg. 9,105 ft.
W. J. Hunter et al No. 1 Stoer, NW SW NE sec. 10-15-15. R.U.
F. L. Luckett No. 1 Connell, SW NE sec. 10-20-15. 6-in. cmtd. 2,174 ft.; T.D. 2,203 ft.; prep. to test.
Prairie River Synd. No. 1 Hutchinson, SW NW sec. 15-15-12. R.U. to D.D.; old T.D. 7,377 ft.; wsg. to bottom to D.D.
Robson Oil Properties, Inc., No. 1 Cupples, NE sec. 24-16-13 (formerly Falcon Oil Co.). Drlg. 4,700 ft.
Rodgers et al No. 1 Thompson, NW SW SW sec. 11-20-15. Swb. S.W. 2,211 ft.
P. A. Singlust No. 2 Starr-Brown, SE sec. 28-20-16. Cg. S.W. sd.; T.D. 1,820 ft.; W.O.
Stanolind O. & G. No. 118 Dillon, SE sec. 14-21-15. T.D. 1,675 ft.; acidizing.
Stanolind O. & G. No. 119 Dillon, SE NE sec. 14-21-15. R.U.
Stanolind O. & G. No. 120 Dillon, SE NE sec. 14-21-15. Loc.
Stanolind O. & G. Co. No. 121 Dillon, NE SE sec. 14-21-15. Loc.
Stanolind O. & G. Co. No. 122 Dillon, NW sec. 13-21-15. Loc.
J. J. Thompson No. 1 Gamm, NE SW NW sec. 35-21-15. Tstg. S.W.; S.D.; T.D. 2,225 ft.

Claiborne Parish

Lisbon Oil Co. No. 1 J. W. Burgess, NE SE NE sec. 3-20-5w. Drlg. 5,375 ft.
Lyons & Neely No. 1 H. E. Patton, NE NW SW sec. 36-21-5w. T.D. 5,292 ft.; prep. to test.
Ray P. Oden No. 1 W. H. Patton, SW SE SE sec. 36-21-5w. T.D. 5,373 ft.; flw. 34 B.P.H.; testing.
Red Iron Drlg. Co. No. 1 H. E. Patton, S½ SW NE sec. 36-21-5w. T.D. 5,374 ft.; prep to test.
Shreveport Oil Corp. No. 1 Edwards, NE sec. 16-20-5w. Loc.
Standard Oil of La. No. 1 Baker, 660 S&E NW sec. 27-19n-7w. Drlg. 5,218 ft.
United Gas et al No. 1 W. Brown, sec. 1-19-6. T.D. 5,984 ft.; swbg. and test oil show.

De Soto Parish

Benedum & Trees No. 1 Clifton, NE NW sec. 33-13-12. Drlg. 3,935 ft.
Chamberlin et al No. 1 Lanier, 280 ft. N and E, SW NE sec. 29-11-11. R.U.
Gulf Ref. Co. No. 36-A Jenkins, SE cor. sec. 2-12-12. Tstg. and prep D.D.; T.D. 2,543 ft.
Lee Oil Co. No. 1 Mansfield, SE sec. 13-10-14. Drk.
Peral Oil Co. No. 1 Joyner, SE NW SW sec. 28-11-12. Fsg. for tubing; T.D. 3,300 ft.
Rio Rajo Oil Co. No. 7 Prudhomme, SE cor. sec. 20-12-11. 7-in. cmt. 2,663 ft.; T.D. 2,708 ft.
Stillers et al No. 2 Jenkins, 330 ft. S and W, NE SE NW sec. 35-13-12. S.D. 2,503 ft.; fuel.
R. M. Sundby No. 1 A. P. Garland, NW SW sec. 7-14-14. Drlg. 4,800 ft.

Grant Parish

Grantland Prod. Co. No. 1 Swope-Labrat, NE SW sec. 8-9-1e. Loc.
Tri State Lse. & Dev. Co. No. 1 Edenborn Est., NE SE SE sec. 13-7-4w. T.D. 3,000 ft.; S.D.

Jackson Parish

G. W. Zeigen No. 5 La. Cen. Lbr. Co., sec. 13-14-2w. Drlg. 2,338 ft.

Morehouse Parish

So. Carbon Co. No. 3 Miles, NE sec. 36-21-4e. Drlg. 2,200 ft.

Natchitoches Parish

Natchitoches Oil Co. No. 1 Simpson, sec. 12-7-7 (formerly reported in error as abd.). Now rebldg. drk.

Ouachita Parish

H. L. Woods No. 1 Union, NE sec. 17-19-3e. R.U.
H. L. Woods No. 2 Union Power, SE sec. 17-19-3e. Cmt. 6-in. 2,238 ft.
United Gas No. 2 Morris, SE sec. 36-19-3e. Loc.
United Carbon No. 7 Neston, NE cor. sec. 32-19-4e. Cmt. 6-in. 2,187 ft.; W.O.C.S.

Red River Parish

Gulf No. 39 E. T. Robinson, NW cor. sec. 25-13-11. 6-in. cmtd. 2,490 ft.
Perla Oil Co. No. 1 DeLong, 330 ft. S and E, C sec. 23-12-10. Fsg. 2,800 ft.

Richland Parish

Gulf Ref. Co. No. 15 R. R. Rhymes et al, sec. 32-17-6e. Milling on cone; T.D. 9,892 ft.

Sabine Parish

Ellis Prod. Co. No. 1 Small, SE NW SE sec. 24-7-11. T.D. 3,802 ft.; D.&A.
Earl F. Fox No. 1 Blankenship, NE SE NW sec. 13-9-12. S.D. sh.; T.D. 3,412 ft.
Kirk-Green-Way Inc. No. 1 Whitney Corp., NW NE sec. 8-9-13. Drlg. 3,124 ft.
Prod. O. & G. Co. No. 1 Edwards Est., SE NW SW sec. 29-9-13. Comp. pump 100 B.P.D.; T.D. 1,743 ft.
Prod. O. & G. Co. No. 1 Lynch, SW NE SW sec. 29-9-13. Pumped off; acid; T.D. 1,608 ft.
Willis & Dowden No. 1 Lynch, SW NE SW sec. 29-9-13. T.D. 1,608 ft.; arg. tst.

Union Parish

Interstate Nat. Gas Co. No. 63 fee, SE sec. 3-21-3e. Drlg. 1,800 ft.
So. Carbon Co. No. 17 Grayling, SW cor. sec. 21-21-4e. R.U.
So. Carbon No. 18 Grayling, SE cor. sec. 20-21-4e. Loc.
H. L. Woods No. 2-B Frost Lbr., NW sec. 16-21-3e. Loc.
H. L. Woods No. 3-B Frost Lbr. Co., SE SW sec. 10-21-3e. Loc.

Webster Parish

W. H. Bass Drlg. Co. No. 1 T. Crichton, C NW NW sec. 21-20-9. Drk. and M.I.M.
Magnolia No. 2 D. G. Cox, SW SE NE sec. 22-21-10. Drlg. 2,000 ft.
Ohio Oil Co. No. 1 S. P. D. Coyle, NW SE SW sec. 23-21-10. Drlg. 5,868 ft.
Ohio Oil Co. No 2 R. M. Coyle, SE sec. 22-21-10. Drlg. 4,560 ft.
Ohio No. 1 S. P. D. Coyle and W. Cox, SW SW SE sec. 23-21-10. Drk.
Ohio Oil Co. No. 2 A. H. Gray Acct. No. 2, NW sec. 26-21-10. Drlg. 6,264 ft.
Ohio Oil Co. No. 2 A. J. Hodges, NE NW SW sec. 23-21-10. Drlg. 6,441 ft.
Ohio No. 7-B R. L. Holloway, 586 ft. N, 756 ft. E line, sec. 23-21-10. Drk.
L. R. Skidmore No. 1 Barnett, NE NW SW sec. 29-17-9. Drlg. 2,820 ft.
Standard Oil Co. of La. No. 1 E. Firdecker, 1,320 ft. E, 1,316 ft. S, SW cor. sec. 2-17n-9w. Prep. perf. and test; T.D. 7,202 ft.
United Gas No. 2 Davis, 660 ft. S and E, NW cor. sec. 23-21-10. T.D. 8,551 ft.; gauging.
United Gas No. 1 Mixon, SE SW sec. 22-21-10. T.D. 8,231 ft.; tstg.
Woodley Pet. Co. No. 4-B Gray, NE NE sec. 27-21-10. Drlg. 6,242 ft.

SOUTH LOUISIANA FIELDS

Ansela Butte—St. Martin Parish

Y. D. Spell No. 3 Begnaud, sec. 117-9s-5e. Drk.
Stanolind O. & G. Co. No. 1 Patin, sec. 46-9s-5e. 13⅜-in. csg. 1,514 ft.; T.D. 5,430 ft. (cor.); P.B. 2,658 ft.; T.D. 6,147 ft.; D.S. stuck; sdtrkd. 1,800 ft.

Bayou Cocotriz—Terrebonne Parish

Shell Pet. Corp. No. 1 Pelican, sec. 35-17s-15e. Bldg. drk.

Bayou Mallett—Acadia Parish

Superior Oil Prod. Co. No. 5 Breelley, sec. 52-7s-1e. Abd. 7,233 ft.

Black Bayou—Cameron Parish

Shell Pet. Corp. No. 37 Watkins, sec. 8-12s-12w. Drlg. sh. 1,489 ft.

Caillou Island—Terrebonne Parish

Texas Co. No. 40 State, sec. 78-23s-20e. T.D. 4,916 ft.; 7⅝-in. csg. 4,863 ft.; no report.

Cankton—St. Landry Parish

Superior Oil Prod. Co. No. 1 Brasseaux, sec. 24-8s-3w. Drlg. sh. 7,266 ft.

Charenton—St. Mary Parish

Pan American Prod. Co. No. 3 Laws Realty Co., sec. 25-13s-9e. Sd. and sh. 5,610 ft.
Pan American Prod. Co. No. 1 South Coast Corp., sec. 30-13s-10e. S.D. 6,934 ft.; high wtr.

Choctaw—Iberville Parish

Standard Oil Co. No. 9 Myrtle Grove, sec. 53-9s-11e. T.D. 3,455 ft.; P.B. 3,160 ft.; to sdtrk.; drlg. sh. 4,209 ft.; no report.

Cameron Meadows—Cameron Parish

Burton Sutton Oil Co. No. 16 Sch. Ld., sec. 16-14s-13w. Set 10¾-in. csg.; T.D. 4,851 ft.; P.B. 3,650 ft.; drlg. sh. 4,166 ft.
Burton Sutton Oil Co. No. 18 School Ld., sec. 16-14s-13w. Drk.
Magnolia Pet. Co. No. 19 Cameron Meadows, sec. 16-14s-13w. T.D. 4,714 ft.; recvrd. 2,500 ft. of P.L.O. on D.S.T.; 9⅝-in. csg. 4,694 ft.; P.B. 4,708 ft.; blew out, caught fire; bridged; R.U.; 7-in. csg. 4,696 ft.; fsg.

Darrow—Ascension Parish

Humble O. & R. Co. No. 4 Community, sec. 33-2e. Drlg. sh. 7,874 ft.

Dog Lake—Terrebonne Parish

Texas Co. No. 4 State, sec. 5-22s-16e. T.D. 5,342 ft.; sdtrkd. at 5,185 ft.; T.D. 6,147 ft.; P.B. and sdtrkd.; T.D. 6,891 ft.; I.P. 1,500 B.P.D.; ⅜-in. ck.

Four Isle—Terrebonne Parish

Texas Co. No. 8 State. Drlg. sd. and sh. 9,437 ft.

Garden Island—Plaquemines Parish

Texas Co. No. 23 State, sec. 37-23s-33e. 18⅝-in. csg. 541 ft.; top salt 5,933 ft.; T.D. 5,965 ft.; P.B. and sdtrkd.; drlg. sh. 4,212 ft.

Gillis—Calcasieu Parish

Fohs Oil Co. No. 1 First Natl. Bank, sec. 13-9s-8w. Drlg. sh. 3,465 ft.
Texas Co. No. 12 Nickerson, sec. 1-9s-8w. Drlg. sh. and sd. 5,788 ft.
Union Sulphur Co. No. 12 Barbe, sec. 1-9s-8w. T.D. 9,101 ft.; blew out; caught fire; cratered; cleaning up after blowout; S.D.
Union Sulphur Co. No. 14 Barbe, sec. 1-9s-8w. Drlg. sh. and L. 3,157 ft.
Union Sulphur Co. No. 7 Castle, sec. 14-9s-8w. Drlg. sh. and L. 4,974 ft.
Union Sulphur Co. No. 4 Kaufman, sec. 12-9s-8w. Loc.
Union Sulphur Co. No. 12 Powell Lbr. Co., sec. 12-9s-8w. R.U.

Hackberry—Cameron Parish

W. T. Burton No. 1 Kennedy, sec. 22-12s-10w. Drk.
W. T. Burton No. 1 Rosella Vincent, sec. 22-12s-10w. T.D. 4,351 ft.; fsg.
Gulf Oil Corp. No. 23 Erwin, sec. 12-12s-10w. Drlg. sh. 2,695 ft.
Independent Oil Co. No. 1 Sanner, sec. 29-12s-10w. T.D. 1,775 ft.; 5-in. csg. 1,775 ft.; swbd. S.W.
Stanolind O. & G. Co. No. 6 Carter, sec. 22-12s-10w. T.D. 4,225 ft.; 7-in. csg. 4,205 ft.; I.P. 394 B.P.D.; ¼-in. ck.
Stanolind O. & G. Co. No. 1 J. H. Duhon, sec. 27-12s-10w. Old T.D. 4,627 ft.; drlg. 2,822 ft. in sdtrkd. hole.
Stanolind O. & G. Co. No. 25-B Gulf Land fee, sec. 15-12s-10w. 20-in. csg. 158 ft.; drlg. sh. 2,010 ft.
Stanolind O. & G. Co. No. 1 Little, sec. 28-12s-10w. R.U.
Stanolind O. & G. Co. No. 18 School Land, sec. 16-12s-10w. T.D. 5,996 ft.; P.B. and sdtrkd.; drlg. sh. 3,486 ft.
Stanolind O. & G. Co. No. 52 State, sec. 22-12s-10w. Loc.
Sutton Joint Interest No. 1 Ellender, sec. 22-12s-10w. Drlg. sh. 4,639 ft.
Texas Co. No. 21 State, sec. 12-12s-9w. Drk.

Iowa—Jefferson Davis Parish

Shell Pet. Corp. No. 22 Heyd, sec. 13-9s-7w. T.D. 4,432 ft.; 7-in. csg. 4,408 ft.; I.P. 573 B.P.D.; ¼-in. ck.

Jeanerette—St. Mary Parish

W. T. Burton No. 1 J. J. Roboria, sec. 11-9s-2w. R.U.
Herton Oil Co. No. 1 Banta, sec. 40-13s-9e. Loc.
Herton Oil Co. No. 2 Barrilleaux, sec. 59-13s-8e. Drlg. sh. 6,520 ft.
Herton Oil Co. No. 5 Carter, sec. 38-13s-9e. 10¾-in. csg. 1,495 ft.; T.D. 7,073 ft., oil sd.; 7-in. csg. 7,073 ft.
Herton Oil Co. No. 6 Carter, sec. 38-13s-9e. Drk.
Teche Oil Co. No. 1 LeBourgeois, sec. 59-13s-8e. 10-in. csg. 1,400 ft.; drlg. sh. 4,589 ft.

Jennings—Acadia Parish

W. T. Burton No. 1 Robira, sec. 41-9s-2w. Drlg. 301 ft.
A. C. Glassell et al No. 1 J. Trusel, sec. 42-9s-2w. T.D. 6,867 ft., oil sd.; rng. csg.
Lake City Oil Co. No. 2 Jennings Synd., sec. 46-9s-2w. T.D. 3,990 ft.; P.B. and sdtrkd.
T. C. Markly No. 1 Gourney, sec. 42-9s-2w. Old T.D. 4,280 ft.; skidded drk.; drlg. 1,280 ft.
Shell Pet. Corp. No. 2 Community, sec. 40-9s-2w. T.D. 7,185 ft.; 7-in. csg. 7,181 ft.; T.D. 7,735 ft.; well tried to blow out.
Stanolind O. & G. Co. No. 18 Houssiere-Latrielle, sec. 47-9s-2w. 8⅝-in. csg. 5,358 ft.; drlg. sh. 6,310 ft.
Superior Oil Prod. Co. No. 2 Eunice-Crowley, sec. 12-9s-2w. Drlg. sd. and gravel 1,310 ft.
Superior Oil Prod. Co. No. 2 Jennings-Heywood, sec. 41-9s-2w. 11¾-in. csg. 1,465 ft.; drlg. sd. 4,622 ft.
Superior Oil Prod. Co. No. 2 Leckcit, sec. 42-9s-2w. 7-in. csg. 7,041 ft.; drlg. plug.

Lafitte—Jefferson Parish

Texas Co. No. 6 Lafitte, sec. 20-17s-24e. T.D. 1,771 ft.; lost returns; moved drlg. barge 135 ft. N of first hole; drlg. sh. and L. 9,256 ft.
Texas Co. No. 6 Rigolettes, sec. 39-17s-24e. T.D. 9,479 ft.; 7-in. csg. 9,440 ft.; I.P. 1,392 B.P.D.; ⅜-in. ck.
Texas Co. No. 1 State-Bayou Norman, sec. 28-17s-24e. R.U.

Lake Barre—Terrebonne Parish

Texas Co. No. 37 Lake Barre-State. Drlg. sh. and L. 10,934 ft.; no report.

Lake Hermitage—Plaquemines Parish

Gulf Oil Corp. No. 6 Lafourche, sec. 11-8s-25e. Drlg. sd. and sh. 6,417 ft.

Leesville—Lafourche Parish

Gulf Oil Corp. No. 1-A City of New Orleans, sec. 35-21s-22e. T.D. 5,831 ft.; hole cleaned; run Schlumberger.
Texas Co. No. 59 L.L.&E., sec. 27-21s-27e. Drlg. sd. 3,769 ft.; no report.
Texas Co. No. 62 Leesville, sec. 29-17s-24e. T.D. 4,015 ft.; 7⅝-in. csg. 4,008 ft.; no report.

Lockport—Cameron Parish

Magnolia Pet. Co. No. 6 Freeberg, sec. 9-10s-9w. R.U.

New Iberia—Iberia Parish

Wm. Hellis No. 7 Bernard, sec. 54-12s-7e. T.D. 4,760 ft.; 7-in. csg. 4,694 ft.
Wm. Hellis No. 4 Bullock & Burke, sec. 25-12s-7e. T.D. 4,505 ft.; P.B. and sdtrk.; T.D. 4,401 ft.; P.B. and sdtrkd.; T.D. 4,548 ft.; 7-in. csg. 3,722 ft.; showing oil and wtr.
Wm. Hellis No. 3 Schwing, sec. 57-12s-7e. Drlg. sh. and L. 3,091 ft.
Texas Co. No. 3 Bryant, sec. 25-12s-7e. R.U.
Texas Co. No. 1 Dohoe, sec. 26-12s-7e. Sd. 4,710-94 ft.; 7-in. csg. 4,710 ft.; I.P. 1,200 B.P.D.; ⅝-in. ck.
Texas Co. No. 5-B Hanzen, sec. 54-12s-7e. Drk.

Sorrento—Ascension Parish

Pan American Prod. Co. No. 8 United Ld., sec. 22-10s-4e. T.D. 6,030 ft.; abd.
Sorrento Oil Co. No. 1 Bernard, sec. 9-19s-14e. S.D. 6,262 ft.
Tri-State Dev. Co. No. 1 Duplessis, sec. 69-10s-2e. Drk.

Starks—Calcasieu Parish

J. R. Turnbull No. 1 Industrial Lbr. Co. sec. 20-9s-12w. S.D. 6,433 ft.

St. Martinsville—St. Martin Parish

Tide Water Oil Co. No. 3 Smedes, sec. 57-11s-6e. R.U.

Sulphur—Calcasieu Parish

Union Sulphur Co. No. 840 fee, sec. 29-9s-10w. T.D. 3,740 ft.; P.B. 3,316 ft.; failed to flow.
Union Sulphur Co. No. 842 fee, sec. 29-9s-10w. T.D. 5,475 ft.; P.B. and sdtrkd.; drlg. sh. 3,889 ft.

Tepetate—Acadia Parish

Continental Oil Co. No. 2-D Homeseekers Dev. Co., sec. 29-7s-2w. Loc.
Continental Oil Co. No. 7-A L. L. Welch, sec. 28-7s-2w. Drlg. 1,300 ft.
Continental Oil Co. No. 9-A Homeseekers Dev. Co., sec. 29-7s-2w. T.D. 8,323 ft.; P.B. to sdtrk. at 2,354 ft.; T.D. 8,315 ft.; rng. csg.
Continental Oil Co. No. 3 Johnson, sec. 30-7s-2w. 5¾-in. csg. 8,323 ft.; I.P. 157 B.P.D.; ¼-in. ck.
Continental Oil Co. No. 4 P. W. Miller, sec. 28-7s-2w. Drk.
Continental Oil Co. No. 1 M. F. Ortego, sec. 30-7s-2w. T.D. 8,317 ft.; tstg.

Valentine—Lafourche Parish

Pan American Prod. Co. No. 2-A Harang, sec. 9-17s-20e. 10¾-in. csg. 1,508 ft.; drlg. sh. 3,100 ft.
Pan American Prod. Co. No. 3 Harang, sec. 8-17s-20e. Cg. sd. with oil odor 7,115-93 ft.
Pan American Prod. Co. No. 4 Harang, sec. 8-17s-20e. Drlg. 2,780 ft.

White Castle—Calcasieu Parish

Shell Pet. Corp. No. 4 Shingle, sec. 12-11s-12e. T.D. 8,903 ft.; P.B. 8,717 ft.; drill pipe stuck; fsg.

S. LOUISIANA WILDCATS

Acadia Parish

H. E. Dalton No. 1 Setting, sec. 17-7s-1w. T.D. 5,426 ft.; fsg.
Humble O. & R. Co. No. 1 Nordyke, sec. 23. 9⅝-in. csg. 6,843 ft.; cg. sd. 9,435 ft.

Allen Parish

Humble O. & R. Co. No. 3 Bel, located in cratered hole, sec. 26-6s-7w. 10¾-in. csg. 165 ft.; T.D. 2,870 ft.; 7-in. csg. 2,766 ft.; shot well; failed to stop flwg. S.W.; S.D.

Avoyelles Parish

George Conover No. 1 Purdy-Hess, sec. 36-2n-3e. Drk.
Frost Oil Co. No. 1 Hines Lumber Co., sec. 3-3n-4e. Drk.

Calcasieu Parish

D. D. Oil Co. No. 1 Lutcher Moore, sec. 11-8s-13w. T.D. 8,398 ft.; tried to blow out; D.S. stuck; fsg.

Cameron Parish

Magnolia Pet. Co. No. 1-A Dobbortine, sec. 9-15s-14w. 8⅝-in. csg. 617 ft.
Pure Oil Co. No. 1 Mallard Bay, sec. 22-13s-3w. 18⅝-in. csg. 1,499 ft.; 9⅝-in. csg. 7,906 ft.; T.D. 10,146 ft.; drill stem stuck; P.B. 6,923 ft.; perf. csg. 5,763-68 ft.; cutting and pulling csg.
Southern Sulphur Co. No. 2 State, sec. 29-15s-10w. Drlg. sh. 1,650 ft.
Union Sulphur Co. No. 1 J. O. Hebert, sec. 18-12s-8w. T.D. 6,746 ft.; P.B. 6,484 ft.; cd. oil sd. 6,796-6,815 ft.; run Schlumberger.

East Baton Rouge Parish

Cavalier Oil Co. No. 1 Vingnes, sec. 40-8s-2e. T.D. 6,690 ft.; D.S. stuck.

Evangeline Parish

Belle Chenney Springs Oil Co. No. 1 Belle Springs Land Dev. Co., sec. 10-2s-1w. T.D. 2,214 ft.; pulled drk. in.
Continental Oil Co. No. 1 Pardee Lbr. Co., sec. 18-4s-1w. Cg. sd. and sh. 5,602 ft.

East Feliciana Parish

East Feliciana Oil No. 1 West & Budding, sec. 37-1s-1w. Spudded 15 ft. and S.D.

Iberia Parish

Jefferson Lake Oil Co. No. 414 State Lake Pigneur, Twp. 12s-5e. Top salt 990 ft.; set 10¾-in. csg. 5,095 ft.; top oil sd. 6,915 ft.; 7-in. csg. 6,930 ft.; perf. csg. 6,930-40 ft.; swbg. small amt. oil and S.W.

Jefferson Parish

Louisiana Crusader Oil Corp. No. 1 Langley, sec. 36-7s-5w. Bldg. drk.
Triangle Oil Co. No. 1 Conroe, sec. 125-12s-11e. T.D. 2,461 ft.; drill stem stuck.

Jefferson Davis Parish

Shell Pet. Corp. No. 1 Joe Sturdivant,

sec. 25-10s-4w. 10¾-in. csg. 2,616 ft.; 7-in. csg. 8,630 ft.; redrig. 9,385 ft.
Stanolind O. & G. Co. No. 1 Calcasieu Natl. Bank, sec. 28-7s-3w. T.D. 9,139 ft.; blew out, hole bridged; cutting and pulling stuck D.S.; csg. parted around 1,400 ft.
Stanolind O. & G. Co. No. 1 United Life Accident Co., sec. 16-11s-5w. 13⅜-in. csg. 2,142 ft.; drlg. sd. 6,560 ft.

Lafourche Parish

Fohs Oil Co. No. 1 State Lake, sec. 65-17s-19e. Drlg. sh. 4,232 ft.
Wm. Hellis No. 1 City of New Orleans, sec. 19-23s-23e. Drlg. sh. 7,010 ft.

Livingston Parish

Coastline Oil Co. No. 1 Addison Trust Co., sec. 7-7s-3e. Drk.

Plaquemines Parish

Gulf Oil Corp. No. 1 Bay-Adams, sec. 25-32s-19. Drlg. sd. 4,079 ft.
Tide Water Oil Co. No. 2 Manhattan Fruit Co., sec. 34-21s-22e. Cd. sd. showing oil 6,429-38 ft.; T.D. 7,272 ft.; fsg.; P.B. 2,-500 ft.; drld. to 3,120 ft.; abd.

Rapides Parish

R. D. Webb No. 1 A. M. Brasher, sec. 22-4n-2w. Drlg. L. 3,363 ft.

St. Bernard Parish

Gulf Oil Corp. No. 1 Lake Lery, sec. 28-14s-14e. Drlg. sh. 5,600 ft.
Southern Sulphur Co. No. 2 State Lake Borgne, sec. 38-14s-15e. 13⅜-in. csg. 303 ft.; drlg. sh. 2,830 ft.

St. Charles Parish

Amerada Pet. Corp. and La. Ld. & Expl. Co. No. 1 State, sec. 13-15s-20e. Bldg. drk.

St. Landry Parish

Shell Pet. Corp. No. 1 Boagni, sec. 48-8s-4e. 10¾-in. csg. 2,521 ft.; drlg. sd. and L. 5,073 ft.

St. Martin Parish

Texas Co. No. 9 St. Martin, sec. 21-8s-7e. 18⅝-in. csg. 106 ft.; drlg. sh. and L. 8,688 ft.
Texas Co. No. 3 State, sec. 14-10s-9e. 18-in. csg. 101 ft.; drlg. S.W. sd. 4,638 ft.

St. Mary Parish

Geo. E. Lilly et al No. 1 Martin, sec. 32-9s-7e. Loc.
Texas Co. No. 1 Horse Shoe Bayou, sec. 40-17s-9e. T.D. 10,975 ft.; 7⅝-in. csg. cmtd. on bottom; drlg. plug.
Texas Co. No. 1 State-Bateman Lake, sec. 21-16s-12e. Drlg. sdy. sh. 4,003 ft.

Terrebonne Parish

Humble O. & R. Co. No. 1 H. J. Ellender, sec. 23-19s-19e. 9⅝-in. csg. 8,735 ft.; drlg. sh. 10,804 ft.

West Feliciana Parish

Cavalier Oil Co. No. 1 C. W. Mackie, sec. 59-3s-2w. Drlg. sdy. sh. 4,612 ft.

TEXAS

Week ending March 27

GULF COAST FIELDS

Raccoon Bend—Austin County

Humble O. & R. Co. No. 7-X Ditmar, Wm. Harvey Sur. Drlg. sh. 4,020 ft.
Humble O. & R. Co. No. 3-X A. T. McCasland, W. C. White Sur. T.D. 3,123 ft.; 7-in. csg. 3,081 ft.
Humble O. & R. Co. No. 15 L. R. Sherwood, W. C. White Sur. Drlg. sh. 1,-857 ft.

Hastings—Brazoria County

Coastwide Pet. Co. No. 2 Cecil Brown, B. B.B.&C. Sur., Lot 1. T.D. 6,080 ft.; tstg.
Frost, Lowery & Goldston No. 1 Cecil Brown, center Lot 12, B.B.B.&C. Sur. Drlg. 2,780 ft.
Humble O. & R. Co. No. 1 J. T. Baker, Lot 13, B.B.B.&C. Sur. Drlg. sh. 1,630 ft.
Humble O. & R. Co. No. 3-B Brown, Perry & Austin Sur. Loc.
Humble O. & R. Co. No. 8-A Brown, Wm. Snyder Sur. T.D. 6,120 ft.; P.B. 6,081 ft.; I.P. 16 B.P.H.; ¼-in. ck.
Humble O. & R. Co. No. 9-A Brown, Wm. Snyder Sur. Drlg. sh. 2,930 ft.
Humble O. & R. Co. No. 1 H. F. Johnson, Lot 19, B.B.B.&C. Sur. Drlg. sh. 4,620 ft.
Humble O. & R. Co. No. 1 C. M. Moody, Blk. 11, B.B.B.&C. Sur. T.D. 6,080 ft.; I.P. 27 B.P.H.; ¼-in. ck.
Navarro Oil Co. No. 2 Callahan, Lot 5, H.T.&B. Sur. No. 29. Loc.
Navarro Oil Co. No. 1 Callahan, Lot 6, H.T.&B. Sur. No. 29. Drlg. sh. 4,280 ft.
Albert Plummer No. 1 A. W. Brown, C Lot 74, Perry & Austin Sur. Cmtd. sur. csg.
Stanolind O. & G. Co. No. 3-A Avitts, H.T.&B. Sur. No. 29. Loc.
Stanolind O. & G. Co. No. 2 Frank M. Berger, H.T.&B. Sur. No. 37. Loc.
Stanolind O. & G. Co. No. 2 Blount, H.T.& B. Sur. No. 29. 10¾-in. csg. 1,664 ft.; T.D. 6,080 ft.; run 7-in. csg.
Stanolind O. & G. Co. No. 3 C. H. Blount, B. T. Masterson Sur. Loc.
Stanolind O. & G. Co. No. 3 Brown, H.T. &B. Sur. No. 29. Loc.
Stanolind O. & G. Co. No. 1 J. F. Butt, Lot 15, H.T.&B. Sur. No. 29. Loc.
Stanolind O. & G. Co. No. 1 Mary Condon, H.T.&B. Sur. No. 29, Tr. 20. Loc.
Stanolind O. & G. Co. No. 2 Condon, Lot 11, H.T.&B. Sur. No. 29. Loc.
Stanolind O. & G. Co. No. 9 Drake, H.T.& B. Sur. No. 36. Bldg. drk.
Stanolind O. & G. Co. No. 2 T. C. Edwards, Wm. Henry Sur. T.D. 6,080 ft.; 7-in. csg. 5,998 ft.; I.P. 448 B. 24 hrs.; ¼-in. ck.
Stanolind O. & G. Co. No. 3 Law, H.T.&B. Sur. No. 36. Loc.
Stanolind O. & G. Co. No. 2 Long, H.T.&B. Sur. No. 29. Drlg. sd. 6,005 ft.
Stanolind O. & G. Co. No. 1 A. C. McKibben, H.T.&B. Sur. No. 29. Drlg. L. 4,765 ft.
Stanolind O. & G. Co. No. 2 McKibben, Lot 16, H.T.&B. Sur. No. 29. Loc.
Stanolind O. & G. Co. No. 2 Steve Paul, A. C.H.&B. Sur. No. 2. Drlg. sh. 450 ft.
Stanolind O. & G. Co. No. 3 Steve Paul, A. C.H.&B. Sur. Bldg. drk.
Stanolind O. & G. Co. No. 3 Surface, B. B.B.&C. Sur. 10¾-in. csg. 1,660 ft.; T.D. 6,080 ft.; 7-in. csg. 6,019 ft.; W.O.C.
Stanolind O. & G. Co. No. 8 Williams, A. C.H.&B. Sur. No. 1. Drlg. sh. 6,009 ft.

Lockridge—Brazoria County

Gulf Oil Corp. No. 1 Fred Reiss, J. W. Hall Sur. T.D. 8,164 ft.; rng. 7,000 ft. of 9⅝-in. csg.; P.B. to 2,400 ft.; sdtrkd.; 9⅝-in. csg. 5,000 ft.; drlg. sh. 6,371 ft.
Gulf Oil Corp. No. 1 Carrie Baker, J. W. Hall Sur. No. 68. T.D. 6,358 ft.; 7-in. csg. 6,348 ft.; flwd. 5 B.P.H.; killed due to high gas-oil ratio.
Shell Pet. Corp. No. 2 Ramsey State farm, J. W. Hall Sur. No. 68. 7-in. csg. 6,350 ft.; T.D. 6,390 ft.; P.B. 6,371 ft.; W.O.C.
Gulf Oil Corp. No. 1-A G. L. Wood et al, Thomas Alsberry Sur. No. 4, Abst. No. 2. 13⅜-in. csg. 1,431 ft.
Gulf Oil Corp. No. 3 Wilkes Smith, J. W. Hall Sur. R.U.

Manvel—Brazoria County

Allhands and Davis No. 1 Lambert, E. Little Sur. Set sur. csg. at 1,100 ft.
Burton Drilling Co. No. 1 J. Kroll, center Lot 101, A.C.H.&B. Sur. No. 92. R.U.
R. Olsen No. 2 Nichols, H. N. Little Sur. Drk.
E. A. Stone No. 1 Nichols, E. Little Sur. Drk.
Texas Co. No. 24 Houston Oil Field Assn., Lot 16, A.C.H.&B. Sur. Drlg. sh. and L. 4,339 ft.
Texas Co. No. 1-B O. L. Rash, T. Spraggins Sur. Drlg. sh. 6,500 ft.

Old Ocean—Brazoria County

Harrison and Abercrombie No. 4 Bernard River Ld. and Development Co., Charles Breen Sur. R.U.

West Columbia—Brazoria County

Texas Co. No. 15 Abrams, Geo. Tenille Lge. Sur. 10-in. csg. 1,156 ft.; drlg. sh. 5,155 ft.

Heyser—Calhoun County

Humble O. & R. Co. No. 5 E. H. Welder, J. M. Rios Sur. T.D. 5,486 ft.; W.O.C.
Humble O. & R. Co. No. 6 Elizabeth Welder, J. Maria Rios Sur. Loc.
Humble O. & R. Co. No. 7 E. H. Welder, J. M. Rios Sur. Loc.
Humble O. & R. Co.-Plymouth Oil Co. No. 10-A P. H. Welder, J. M. Rios Sur. Loc.
Humble O. & R. Co.-Plymouth Oil Co. No. 11-A P. H. Welder, J. M. Rios Sur. Loc.
Humble O. & R. Co. and Plymouth Oil Co. No. 12-B P. H. Welder, A. Sisneros Sur. T.D. 5,493 ft.; tstg.
Portilla Drlg. Co. No. 12-C P. H. Welder, A. Sisneros Sur. Drlg. sh. 4,200 ft.
Portilla Drlg. Co. No. 13-C P. H. Welder, A. Sisneros Sur. Set sur. csg.

Anahuac—Chambers County

Gulf Oil Corp. No. 2 Pommer, sec. 40, H. &T.C. Sur. R.U.
Gulf Oil Corp. No. 7 Knowles, W. T. Knowles Sur. Drlg. sdy. sh. 4,648 ft.
Gulf Oil Corp. No. 4 G. C. Wilcox, W. T. Knowles Sur. 10¾-in. csg. 2,020 ft.; drlg. sh. 6,729 ft.
Humble O. & R. Co. No. 10 Broussard-Hebert, sec. 59, H.&T.C. Sur. T.D. 7,075 ft.; 5½-in. csg. 7,044 ft.; I.P. 690 B.P.D.; ¼-in. ck.
Humble O. & R. Co. No. 11 Broussard-Hebert, sec. 59, H.&T.C. Sur. Loc.
Humble O. & R. Co. No. 12 J. E. Broussard, sec. 63, H.&T.C. Sur. Drk.
Humble O. & R. Co. No. 12-B White, J. McGahey Sur. T.D. 7,106 ft.; 5½-in. csg. 7,080 ft.
Humble O. & R. Co. No. 2 Broussard, sec. 63, H.&T.C. Sur. 9⅝-in. csg. 1,256 ft.; T.D. 7,075 ft.; 5½-in. csg. 7,060 ft.; I.P. 58 B.P.D.; ¼-in. ck.
Humble O. & R. Co. No. 1 E. T. Drought, H.&T.C. Sur., sec. 46. Drlg. sh. 3,147 ft.
Humble O. & R. Co. No. 10 Gripon, H.&T. C. Sur., sec. 51. Loc.
Humble O. & R. Co. No. 11 Gripon, H.&T. C. Sur., sec. 51. T.D. 7,080 ft.; I.P. 224 B.P.D.; killed to deepen.
Humble O. & R. Co. No. 12 Gripon, H.& T.C. Sur. No. 51. Loc.
Humble O. & R. Co. No. 10 Max Engles, sec. 50, H.&T.C. Sur. Loc.
Humble O. & R. Co. No. 26 Middleton, H. &T.C. Sur., sec. 62. Drlg. sh. 3,318 ft.
Humble O. & R. Co. No. 13-B White, J. McGahey Sur. Drk.
Sun Oil Co. No. 24 White, J. McGahey Sur. T.D. 7,128 ft.; 7-in. csg. 7,109 ft.

Cotton Lake—Chambers County

Salt Dome Oil Co. No. 1-C Lawrence, S. Barrow Sur. T.D. 6,503 ft.; 7-in. csg. 6,-498 ft.; tstg.

Seabreeze—Chambers County

Sun Oil Co. No. 1-A White, J. G. White Sur. No. 128. O.W.D.D.; T.D. 9,055 ft.; cmtd. back to 8,343 ft.; 7-in. csg. 8,290 ft.; flwg. 11 bbls. dist. per day through ⅛-in. ck.
Sun Oil Co. No. 1-B White, Wm. Mays Sur. 18⅝-in. csg. 1,226 ft.; drlg. sd. 9,-637 ft.

Big Creek—Fort Bend County

Gulf Oil Corp. No. 75 T. W. Davis, M. Young Sur. Drlg. sh. 2,009 ft.
Jenal Oil Co. No. 3 Bryan et al, M. Young Sur. T.D. 3,632 ft.; I.P. 75 B.P.D. by heads.

Blue Ridge—Fort Bend County

Telshaw-Reese and Echelson No. 1 Blakely, E. Drew Sur. Drk.

Boling—Fort Bend County

Crosby et al No. 1 H. R. Farmer, J. Scott Sur. Gbo. 1,201 ft.; no report.
John Deering No. 1 J. M. Moore, Charles Bettner Sur. Drlg. gbo. 1,250 ft.
Mack Hank Oil Co. No. 3-B J. R. Farmer, J. Scott Sur. Drlg. sh. 4,657 ft.
Mack Hank Oil Co. No. 4-C E. C. Farmer, J. Scott Sur. Drlg. sd. and sh. 4,856 ft.
Mack Hank Oil Co. No. 5-C E. C. Farmer, J. Scott Sur. Loc.

Orchard—Fort Bend County

Gulf Oil Corp. No. 52 Moore, James Frazier Sur. Drk.
Gulf Oil Corp. No. 49 J. M. Moore, Germain Immg. No. 8. 13⅜-in. csg 2,522 ft.; drlg. sh. 6,636 ft.
Gulf Oil Corp. No. 51 Moore, Mark Smith Sur. Abd. 2,627 ft.

High Island—Galveston County

Stanolind O. & G. Co. No. 1-B Cade, H. Denman Sur. Drlg. sd. and L. 4,869 ft.
Stanolind O. & G. Co. No. 61 Cade, N. Fitzsimmons Sur. Drlg. sdy. sh. 2,652 ft.
Stanolind O. & G. Co. No. 15-A Smith, M. Dunman Sur. Loc.

Dickinson—Galveston County

Atlantic O. & Ref. Co. No. 1 G. O. Anderson, P. G. Merritt Sur. Drlg. sh. 7,456 ft.
Coast Pet. Corp. No. 6 Maco Stewart, W. K. Wilson Sur. Drk.
Diadem Oil Corp. of Texas No. 2 W. J. Way, F. P. Epperson Sur. Drlg. sh. 5,-775 ft.
Diadem Oil Corp. of Texas No. 1 Pauline Frederick. Loc.
Humble O. & R. Co. No. 1-C Bayou Development Co., J. Sellers Sur. T.D. 8,039 ft.; 7-in. csg. 8,026 ft.
Humble O. & R. Co. No. 15-A Maco Stewart. W. K. Wilson Sur. Loc.
Humble O. & R. Co. No. 16-A Maco Stewart, W. K. Wilson Sur. T.D. 8,850 ft.; rng. csg.
Humble O. & R. Co. No. 17-A Stewart, J. Sellers Sur. Bldg. drk.
Humble O. & R. Co. No. 18-A Stewart, W. K. Wilson Sur. Loc.
W. E. McKinney et al No. 3-A Galveston-Houston Elec. R.R., W. K. Wilson Sur. Loc.
Pure Oil Co. No. 4 J. W. Shelor, G. W. Banks Sur. T.D. 8,108 ft.; 5½-in. csg. 8,108 ft.
Pure Oil Co. No. 1 Sealy Hutchings, P. G. Merrett Sur. 10¾-in. csg. 1,826 ft.; T.D. 8,111 ft.; 5½-in. csg. 8,111 ft.
Sinclair Prairie Oil Co. No. 1 W. Weems, W. K. Wilson Sur. Loc.
Stanolind O. & G. Co. No. 1 Dameani, W. K. Wilson Sur. Drlg. sdy. L. 7,499 ft.
Stanolind O. & G. Co. No. 7 State. Spdd.

Greens Lake—Galveston County

Sun Oil Co. No. 8 Hughes, W. C. M. Baker Sur. Bldg. drk.

Silsbee—Hardin County

Humble O. & R. Co. No. 1 Mrs. M. L. Kirby, G. W. Brooks Sur. Loc.
Republic Prod. Co.-Houston Oil Co. No. 9 Brooks, G. W. Brooks Sur. R.U.
Republic Prod. Co.-Houston Oil Co. No. 10 Brooks, G. W. Brooks Sur. T.D. 1,530 ft.; rng. 10¾-in. csg.
Republic Prod. Co.-Houston Oil Co. No. 11 Brooks, G. W. Brooks Sur. 10¾-in. csg. 1,441 ft.

Clinton—Harris County

Stanolind O. & G. Co. No. 1 D. A. Oates, C. Martinez Sur., Abst. 543; 9⅝-in. csg. 6,771 ft.; drlg. sdy. sh. 8,067 ft.; top gas sd. 8,063 ft.; drlg. sh. 8,307 ft.

Humble—Harris County

Texas Co. No. 3 Carroll, J. B. Stevenson Sur. Drlg. sh. 2,800 ft.

Mykawa—Harris County

West Prod. Co. No. 10 W. H. Irwin, W. B. Walker Sur. Drk.

Pierce Junction—Harris County

Hamil & Smith No. 3 Saunders, B.B.B.& C. Sur. Top salt 3,981 ft.; T.D. 4,000 ft.; csg. collapsed.
Rio Bravo Oil Co. No. 30-A Settegast, P. H. Kopinan Sur. T.D. 7,677 ft.; I.P. 412 B.P.D.; ¼-in. ck.

South Houston—Harris County

Stanolind O. & G. Co. No. 2 Dist. No. 8. Bldg. drk.
Stanolind O. & G. Co. No. 6 First Natl. Bank, Callahan and Vince Sur. T.D. 4,-045 ft.; P.B. 2,380 ft.; drlg. sh. 2,384 ft.
Stanolind O. & G. Co. No. 2 Green, H.T. &B. Sur. No. 6. 9⅝-in. csg. 1,429 ft.; drlg. sdy. sh. 3,353 ft.
Stanolind O. & G. Co. No. 5 Holland and Price, H.T.&B. Sur. No. 6. 13⅜-in. csg. 90 ft.; drlg. sh. 1,509 ft.

Tomball—Harris County

Humble O. & R. Co. No. 1 Farris et al, W. Usner Sur. T.D. 5,542 ft.; 5½-in. csg. 5,542 ft.; perf. csg.; I.P. 17 B.P.H.; ¼-in. ck.
Humble O. & R. Co. No. 1 W. J. Murphy, J. Pruitt Sur. Drlg. sdy. sh. 5,540 ft.
Humble O. & R. Co. No. 1 L. T. Norvell, J. Pruitt Sur. Bldg. drk.
Humble O. & R. Co. No. 1 Tomball Townsite Unit No. 8, Wm. Hurd Sur. Bldg. drk.
Humble O. & R. Co. No. 1 Tomball Townsite, Unit 14, R. Hubbard Sur. T.D. 5,-584 ft.; 5½-in. csg. 5,577 ft.
Kourey Drlg. Co. No. 2 Hillegeist, J. House Sur. Drk.
Shell Pet. Corp. No. 2 Beeler, J. Pruitt Sur. T.D. 5,573 ft.; 5-in. csg. 5,554 ft.; W.O.C.

Mauritz—Jackson County

Shell Pet. Corp. No. 1-B Mauritz, T.D. 5,703 ft.; 5-in. csg. 5,693 ft.; P.B. 5,651 ft.; perf. csg.

Amelia—Jefferson County

Humble O. & R. Co. No. 1 A. Busceine, C. Blk. 3, C. Williams Sur. Loc.
Humble O. & R. Co. No. 1 Freeman, C. Williams Sur. Drlg. sd. 5,285 ft.
Humble O. & R. Co. No. 1 Gist, C. Williams Sur. Drlg. sd. and sd. 6,096 ft.
Humble O. & R. Co. No. 1 Industrial Investment Co., Unit 1-B, C. Williams Sur. 13⅜-in. csg. 215 ft.; T.D. 6,780 ft.; 5½-in. csg. 6,780 ft.
Humble O. & R. Co. No. 2 Industrial Invest. Co., C. Williams Sur. Drk.
Humble O. & R. Co. No. 1 J. E. LaGrange, Lot 33, Blk. E, C. Williams Sur. Top sd. 6,760 ft.; T.D. 6,780 ft.; 5½-in. csg. 6,780 ft.
Humble O. & R. Co. No. 1-B M. I. Lefler, Unit 19, Blk. E, C. Williams Sur. Drlg. sh. 2,826 ft.
Humble O. & R. Co. No. 2 M. L. Lefler, C. Williams Sur. Drlg. sd. 1,059 ft.
Humble O. & R. Co. No. 2-B M. I. Lefler, Lot D, C. Williams Sur. Loc.
Humble O. & R. Co. No. 1 M. Lefler, Amelia Heights Subd., C. Williams Sur. 13⅜-in. csg. 226 ft.; top sd. 6,716 ft.; T.D. 6,784 ft.; I.P. 684 B.P.D.; ¼-in. ck.
Humble O. & R. Co. No. 1 A. L. Nolan, Blk. E, Williams Sur. Loc.
Humble O. & R. Co. No. 3 J. H. Phelan, C. Williams Sur. Loc.
Humble O. & R. Co. No. 1 G. Sims, C. Williams Sur. Drlg. clay 160 ft.
Humble O. & R. Co. No. 4 Tyrell, A. Savery Sur. T.D. 6,780 ft.; 5½-in. csg. 6,780 ft.; lost screen in hole; fsg.
Glenn H. McCarthy No. 4 Long, H. Williams Sur. Bldg. drk.
Stanolind O. & G. Co. No. 1 J. W. Hall, H. Williams Sur. R.U.
Stanolind O. & G. Co. No. 2 Sargl, H. Williams Sur. Bldg. drk.

Big Hill—Jefferson County

Stanolind O. & G. Co. No. 2 M. E. Fitzhugh, Wm. McFaddin Sur. R.U.

Fannett—Jefferson County

Gulf Oil Corp. No. 1 Junker, W. A. Smith Sur. Drlg. sh. 6,036 ft.

LaBelle—Jefferson County

Sun Oil Co. No. 1 John Ward, 933 ft. S of No. 2 Broussard, Wm. Burton Sur. 18⅝-in. csg. 109 ft.

Nome—Jefferson County

Shell Pet. Corp. No. 5 Carpenter, M. Peveto Sur. T.D. 6,145 ft.; tstd. S.W. on D.S.T.; 5-in. csg. 6,075 ft.
Shell Pet. Corp. No. 5 Paggi, Kirby Sur. Drlg. L. 5,437 ft.
Sun Oil Co. No. 1 J. E. Burrows, J. Blair Sur. Bldg. drk.
Sun Oil Co. No. 1 Long, J. Blair Sur. O.W.D.D.; T.D. 9,045 ft.; cutting and P.B. 5,660 ft.; to sdtrk.; T.D. 6,050 ft.; 5¾-in. csg. 6,000 ft.
Sun Oil Co. No. 6 Paggi, J. W. Kirby and W. H. Aldridge Sur. Bldg. drk.
Sun Oil Co. No. 7 Paggi, J. W. Kirby and W. H. Aldridge Sur. Loc.
Sun Oil Co. No. 1 A. J. Mouboules, J. Blair Sur. 10¾-in. csg. 1,062 ft.; drlg. sh. 8,176 ft.

Cleveland—Liberty County

Gulf Oil Corp. No. 17-C Kirby, J. Pleasants Sur. R.U.
Gulf Oil Corp. No. 4-C McDonald. T.D. 5,894 ft.; flwd. S.W.; abd.

Hankamer—Liberty County

Gulf Oil Corp. No. 2-A Weiser, George Stengler Sur. Drlg. sd. and sh. 4,432 ft.

Hardin—Liberty County

Jack Frazier et al No. 1 B. F. Haoachy, Hugh B. Johnson Sur. Bldg. bridge.

Hull—Liberty County

Bishop Oil Co. No. 1 C. R. Wilson, J. Devore Sur. Drlg. gbo. 800 ft.
D.&L. Production Co. No. 4 Mecon and Layton, J. Devore Sur. Drlg. sh. 3,807 ft.; no report.
Eclipse Oil Co. No. 1 Barrow. T.D. 5,014 ft.; S.D.
Gulf Oil Corp. No. 23 Baldwin, J. Devore League Sur. Drlg. sh. 4,636 ft.
Republic Prod. Co. No. 162 Dolbear, J. Devore Sur. R.U.
Texas Co. No. 6 Hannah, J. Devore Sur. R.U.

Esperson—Liberty County

General Crude Oil Co. No. 26 Moores Bluff. Loc.

Bay City—Matagorda County

Hamman Expl. Co. No. 1 J. H. Crocker, E. Hall Sur. 13⅜-in. csg. 1,260 ft.; 9⅝-in. csg. cmtd. at 6,500 ft.; T.D. 9,-575 ft.; 7-in. csg. 9,575 ft.; perf. csg. 8,806-19 ft., 8,832-36 ft., 8,944-49 ft.; tstd. S.W.; set cmt. retainer at 8,200 ft.; perf. csg. 8,190-94 ft.; flwd. 650 bbls. flowing 470 bbls. of fluid per day

through ¼-in. ck., 4 to 8% S.W.; W.P. 300 lbs.

Hawkinsville—Matagarda County

Sun Oil Co. No. 2 Craig, T. Williams Sur. Top salt 796 ft.; base salt 2,099 ft.; 18⅝-in. csg. 2,174 ft.; 13⅜-in. csg. 3,700 ft.; drlg. sh. 4,350 ft.

Markham—Matagarda County

G. G. Hamil, Tr., No. 2 T. E. Hudson, H. Parker Sur. Drlg. sh. 2,600 ft.

Van Vleck—Matagarda County

Skelly Oil Co. No. 2 W. P. Johnson, M. Cummings Sur. Loc.
Royal Oil Co. No. 1 Fine Holub, M. Cummings Sur. Drlg. sh. 2,377 ft.
Skelly Oil Co. No. 2 Rugely, I.&G.N. Sur. No. 8. 10¾-in. csg. 1,399 ft.; drlg. sh. 7,750 ft.
Skelly Oil Co. No. 1 First Natl. Bank, I.&G.N. Sur. No. 7. T.D. 8,245 ft.; making D.S.T.

Conroe—Montgomery County

Butler & Hornes No. 1 Koonee, Collins Sur. Spudded.
Humble O. & R. Co. No. 1 Taylor, R. Kuykendall Sur. Drlg. 3,775 ft.
Normandie Oil Co. No. 27 Falvey, G. Harris Sur. Tstd. S.W. on D.S.T.; cg. ahead at 5,147 ft.
Sun Oil Co. No. 6 South Texas Dev. Co. Drlg. sd. 5,102 ft.

Ace—Polk County

Peyton Bros. et al No. 1 McDonald, P. A. Sublett Sur. T.D. 4,820 ft.; abd.
Peyton Bros. No. 1 A. H. Waldenan, P. A. Sublett Sur. Loc.

Segno—Polk County

J. K. Dorrance No. 2 Wing Est., I.&G.N. Sur. No. 15. T.D. 5,197 ft.; 7-in. csg. 5,-167 ft.; I.P. 408 B.P.D.; ¼-in. ck.
J. K. Dorrance No. 3 Wing, I.&G.N. Sur. No. 15. R.U.
Gulf Oil Corp. No. 1 Wing, I.&G.N. Sur. No. 15. R.U.
Humble O. & R. Co. No. 1 Kirby Lbr. Co., P. Garcia Sur. Top Cockfield 5,122 ft.; cg. sh. 5,177 ft.
Rajo Oil Corp. No. 1 Sarah Wing, I.&G.N. Sur. No. 15. Loc.

Quintana-O'Connor-Greta—Refugio County

Cosmo Pet. Co. No. 15 Heard, Lot 7. T.D. 4,920 ft.; tstg.
Hewitt & Daugherty No. 41 Lambert, Swisher Sur. No. 7. T.D. 5,897 ft.; 7-in. 5,897 ft.; I.P. 1,415 B.P.D.; ⅜-in. ck.
Josey & Bruton No. 1-B Lambert, Hews Sur. Set sur. csg.; W.O.C.
Josey & Bruton No. 4-A Lambert, Swisher Sur. Cd. sd. 5,883-5,900 ft.; I.P. 608 B. P.D.; ¼-in. ck.
Quintana Pet. Co. No. 5 Heard, T. H. Webb Sur. R.U. and S.D.
Quintana Pet. Co. No. 40 Lambert, Swisher Sur. Loc.
Quintana Pet. Co. No. 43 Lambert, Swisher Sur. Loc.
Quintana Pet. Co. No. 46-A Tomoconnor, J. M. Swisher Sur. No. 4. Drlg. sh. 4,-450 ft.
Quintana Pet. Co. No. 3 Riley, M. J. Ximines Sur. Cg. 5,975 ft.
Quintana Pet. Co. No. 13-C Tomoconnor, Swisher Sur. Drlg. 3,812 ft.
United Gas Corp. No. 40 Lambert, Blk. 43, Swisher Sur. T.D. 5,940 ft.; W.O.C.
United Gas Corp. No. 43 Lambert, J. M. Swisher Sur. T.D. 5,803 ft.; tstg.
United Gas Corp. No. 48 Lambert, J. M. Swisher Sur. Drlg. sd. 2,815 ft.
United Gas Corp. No. 50 Lambert, J. M. Swisher Sur. Drlg. 4,120 ft.
United Gas Corp. No. 12 J. J. O'Brien. Drlg. 7,845 ft.

Keeran—Victoria County

Gulf Oil Corp. No. 10 Keeran Estate, M. DeLeon Sur. Drlg. sh. 5,097 ft.
Union of California No. 3 J. M. Keeran Est., M. DeLeon Sur. Drlg. sh. 5,437 ft.

Placedo—Victoria County

Barnsdall-American Liberty Oil Co. No. 3 E. G. Gray, S.A.&M.G. Sur. Drlg. sh. 3,312 ft.
Barnsdall-American Liberty Oil Co. No. 10 J. M. Pickering, Wm. Rupley Sur. Drk.

LEGAL

U. S. Department of the Interior, General Land Office, Washington, D. C. Notice is hereby given that Unit No. 1 embracing SW¼ SW¼ Sec. 4, T. 23 N., R. 15 W., 40 acres, and Unit No. 2, embracing NW¼ SW¼, S½ SW¼, SW¼ SE¼, Sec. 6, T. 23 N., R. 15 W., 113.38 acres, in the Rodessa Oil and Gas Field, Caddo Parish, Louisiana, are offered to the responsible qualified bidder of the highest bonus per acre, the minimum bid being $1 per acre, under section 17 of the leasing act of February 25, 1920 (41 Stat. 437), as amended by the act of August 21, 1935 (49 Stat. 674), at the royalty rate scale in the lease form shown in Circular 1386, at a sale to be held in the Federal Court Room, Post Office Building, Shreveport, Louisiana, at 12:00 noon, on April 22, 1937. The successful bidder must deposit on the day of the sale a certified check on a solvent bank, or cash, for one-fifth of the amount of each bid and file the showing of qualifications to receive a lease required by section 7 of General Land Office Circular 1386. The remaining four-fifths, together with the annual rental in advance at the rate of $1 per acre must be paid prior to the issuance of the lease. The bidders are warned against violation of the provisions of section 59 of the United States Criminal Code approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. (Signed) Fred W. Johnson, Commissioner.

Barnsdall-American Liberty Oil Co. No. 14 Pickering, S.A.&M.G. Sur. R.U.
Crown Central Oil Co. No. 4 O. M. Lauder, S.A.&M.G. Sur. No. 6. T.D. 4,786 ft.; tstg.; swbd. S.W. and oil; P.B. 4,780 ft.; shut in.
Magnolia Pet. Co. No. 6 Sklar, S.A.&M.G. Sur., Lot 8. Drk.
Shell Pet. Corp. No. 2 Houston Natl. Bank, S.A.&M.G. Sur. No. 7. Drlg. sh. and sd. 3,160 ft.
Superior Oil Prod. Co. and Gillespie No. 3 J. J. Hosek, S.A.&M.G. Sur. Drk.
Superior Oil Co.-Gillespie No. 1 J. J. Hosek, S.A.&M.G. Sur. R.U.
Westgate Oil Co. No. 6 F. F. Mieska, S.A. &M.G. Sur. No. 10. Drk.

Clay Creek—Washington County

Sun Oil Co. No. 1 H. Lauter, N. Clay Sur. 7-in. csg. 7,445 ft.; T.D. 8,306 ft.; P.B. to csg. seat; perf. csg. 7,549-7,365 ft. and 5,100-10 ft.; tstd. S.W.; cmtd. back 7,100 ft.
Virginia Oil Co. No. 1 Joe Kenieczny, S. M. Williams Sur. 10¾-in. csg. 104 ft.

Five Corners—Wharton County

Texas Co. No. 2-B Pierce Est., J. Caldwell Sur. Loc.
Texas Co. No. 6-B Pierce. J. Hyland Sur. T.D. 5,554 ft.; 7-in. csg. 5,544 ft.; flwd. S.W. and oil; went dead.

Pickett Ridge—Wharton County

Texas Co. No. 33-A Pierce Est., G.B.&N. Sur. No. 4; 9,000-ft. test. Moving in.
Texas Co. No. 1 J. Tlustos, H.&T.C. Sur. No. 192. T.D. 4,602 ft.; 7-in. csg. 4,580 ft.; W.O.C.

Withers—Wharton County

Texas Co. No. 23-C Pierce, Wm. Pettus Sur. T.D. 5,556 ft.; 7-in. csg. 5,549 ft.; I.P. 66 bbls. in 14½ hrs.; ⅛-in. ck.
Texas Co. No. 24-C Pierce Est., Wm. Pettus Sur. 10¾-in. csg. 1,207 ft.; drlg. sh. and L. 3,855 ft.
Texas Co. No. 25-C Pierce Est., Wm. Pettus Sur. Drlg. clay 65 ft.
Texas Co. No. 26-C Pierce, Wm. Pettus Sur. Drk.

GULF COAST WILDCATS

Austin County

R. L. Hopkins No. 1 J. W. Recnecke, J. Stephenson Sur. R.U.

Brazoria County

Pure Oil Co. No. 1 P. M. Slade, S. F. Austin Lge. Drlg. sh. and L. 5,342 ft.
Texas Co. No. 2 Robbins, James W. Brougham Sur. Drlg. sd. and L. 4,485 ft.

Calhoun County

Matagorda Oil Co. No. 1 Brundet, Tr. 8. Matagorda Island. 13⅜-in. csg. at 1,826 ft.

Colorado County

Humble O. & R. Co. No. 1 Relow Ld. Co., J. L. Duggan Sur. Loc.

Fayette County

McNeil Pet. Co. No. 1 Dybla, A. Thompson Sur. 10¾-in. csg. 21 ft.; abd. 4,014 ft.

Fort Bend County

Research, Inc., No. 1 J. M. Moore, S. Kennedy Sur. R.U.

Galveston County

Shell Pet. Corp. No. 2 Maco Stewart, 4,-400 ft. E of No. 1 J. Spillman Sur. 10¾-in. csg. 1,484 ft.; T.D. 6,250 ft.; fsg.

Hardin County

T. S. Deskin No. 1 Mary B. Collier, O. C. Nelson Sur. Abd. 2,160 ft.
E. J. Kimball No. 1 Keitle Lbr. Co. Loc.

Harris County

Farrel and Cox No. 1 Bender, N. W. Travis Sur. 6⅝-in. csg. 1,000 ft.; abd. 1,-200 ft.
R. W. Ford et al No. 1 W. A. and O. C. Pruitt, G. Brooks Sur. Loc.
George Lawrence et al No. 1 Zoppa, J. Farwell Sur. 10¾-in. csg. 605 ft.; T.D. 6,620 ft.; 5½-in. csg. on bottom; perf. csg. 6,412-28 ft.
H. M. Harrell et al No. 1 F. N. Bullock, Charles Bowman Sur. T.D. 827 ft.; rng. 10¾-in. csg.
Stanolind O. & G. Co. No. 1 Warren Minerals, H.T.&B. Sur. No. 1. 7⅝-in. csg. 5,749 ft.; T.D. 6,685 ft.; rng. Schlumberger test.
Superior Oil Co. No. 1 Bentler, Ehrhardt Sur. Loc.
Texas Gulf Prod. Co. No. 1 Gillespie and Garnsey, Simon Contreras Sur. 10¾-in. csg. 1,438 ft.; T.D. 8,084 ft.; run 7-in. csg.

Houston County

American Liberty Oil Co. No. 1 J. D. Bean, D.W.R.R. Co. Sur. 10¾-in. csg. 1,796 ft.; drlg. sh. and sd. 6,260 ft.
H. L. Hunt No. 1 J. E. Elliott, J. M. Procella Sur. 13⅜-in. csg. 495 ft.; drlg. sh. and L. 5,325 ft.

Jackson County

Texas Co. No. 1 T. A. Mauritz, Morris and Cummings Sur. Drlg. soft sd. 5,-094 ft.

Jefferson County

Humble O. & R. Co. No. 1 Jefferson Ld. Co., C. Hillibrant Sur. T.D. 8,232 ft.; 7-in. csg. 8,162 ft.; T.D. 8,458 ft.; cutting and pulling stuck D.S.; P.B. 7,860 ft.; drld. out 7,880 ft.; perf. csg. 7,761-89 ft.; tstd. S.W.; pulling screen.
Magnolia Pet. Co. No. 1 J. H. Phelan, T.&N.O. Sur. No. 14. R.U.
David B. MacDaniel et al No. 1 Nona Mills, J. C. Grant Sur. Drlg. 2,850 ft.

Lavaca County

Welshire Union Oil Co. No. 1-A Pohl, F. Bass Sur. T.D. 3,250 ft.; P.B. 2,950 ft.; two tests failed; S.D.

Liberty County

Kenco Oil Corp. No. 1 E. B. Pickett, H. T.&B. Sur. No. 10. 10¾-in. csg. 1,237 ft.; abd. 7,566 ft.

Matagorda County

Continental Oil Co. No. 2 Robbins, J. C. Franz Sur. 11¾-in. csg. 6,430 ft.; T.D. 8,908 ft.; run 8⅝-in. csg.
Glenn McCarthy No. 1 Foley, sec. 19, Susan Perkins Sur. 10¾-in. csg. 2,008 ft.; T.D. 8,585 ft.; oil sd.; rng. 7-in. csg. tstg. through perf. csg.
United North & South Development Co. No. 1 J. S. Cotton Sur. Drlg. sh. 8,751 ft.

Polk County

Mayo et al No. 1 Catline Mayo, J. G. Loving Sur. 10¾-in. csg. 250 ft.; drlg. 4,194 ft.

Refugio County

Wynne Drlg. Co. No. 1 C. D. Roadche-J. Patrick and J. Downey Sur. S.D. 5,500 ft.

Tyler County

Republic Prod. Co.-Houston Oil Co. No. 2 Hurd, N. Hurd Sur. 10¾-in. csg. 2,296 ft.; cg. sd. 5,454 ft.; T.D. 5,475 ft.

Victoria County

Commonwealth O. & G. Co. No. 3 W. H. Bennett, J. Estuvan-Galbon Sur. Rng. csg.; T.D. 5,475 ft.
Magnolia Pet. Co. No. 1 Annie B. Wayne, T.&N.O. Sur. No. A-407. Drlg. sh. 4,-185 ft.

Walker County

Garland, Hartman & Page No. 1 Carey Ld. & Dev. Co., D. M. McDonald Sur. R.U.

Waller County

Nine Blumenthal No. 1 Alex P. Kelley, S. H. Haddin Sur. Spudded.
Sumas Prod. Co. of Austin No. 1 J. J. Manker. 10¾-in. csg. 300 ft. S.D. 5,092 ft.; abd.
H. E. Williams No. 1 T. C. Giddings Est., David Mouser Sur. T.D. 4,408 ft.; abd.

Washington County

Smith & Schlinke No. 1 Woode, J. Clark Sur. Abd. 2,802 ft.

Wharton County

J. F. Hutchins No. 1 J. J. Winsley, James Tumlinson Sur. 10¾-in. csg. 647 ft.; drlg. sh. 2,610 ft.
Texas Co. No. 1 Kluck, Jos. Hyland Sur. S.D. 6,526 ft.
Texas Co. No. 1 E. A. Weatherer, L. P. Ogden Sur. Drlg. sh. and sd. 6,079 ft.

S. W. TEXAS WILDCATS

Aransas County

Barnsdall Oil Co. No. 1-A Kate Edwards, 330 ft. S line, Lot 85, 660 ft. SW No. 1, Wm. Lewis Sur. Set 10¾-in. csg. 1,408 ft.; drlg. 6,267 ft.

Atascosa County

Frontier Oil Co. No. 1 Oppenheimer, John Sharp Sur. Set csg. 2,770 ft.; P.B. 2,667 ft.; acidizing.
R. J. Roberts et al No. 1 Elder, Sur. 190. T.D. 3,140 ft.; S.D.; repairs.
Wheelock & Collins No. 1 Turner, A. Sitton Sur. Spudded.

Bee County

J. R. Dougherty No. 1 Weiss, 1,300 ft. E line, 6,200 ft. N line, Uranga Gr. D.&A. 4,650 ft.
L. Glasscock No. 1 Ablinger, J. Ryan Sur. Set sur. csg. 1,350 ft.; drlg. 1,377 ft.
W. C. McBride, Inc., No. 1 Brown & Hansen, J. Pace Sur. Pettus sd. 3,567 ft.; dry; T.D. 3,882 ft.; D.&A.

Blanco County

E. L. Nixon No. 1 Hornberger, 1,200 ft. S line, 300 ft. E line, Sur. 723. Set csg. 837 ft.; W.O.C.

Brooks County

Standard of Tex. No. 1 Mestina, Mestina Lse. No. 3. Set condr. csg. 100 ft.; W. O.C.
Texas Gulf Prod. Co. No. 1 Proctor, 330 ft. S and E lines, Blk. 2, sec. 20, Los Almos and Loma Blanca Surs. D.&A. 6,028 ft.

Burleson County

M. R. Exploration Co. No. 3 Fountain, Wm. Raleigh Sur. M.I.M.
Red Bank Oil Co. No. 2 Grann, 6,063 ft. N line, 1,900 ft. W line, E. Santef Sur. M.I. rig.

Caldwell County

Kay Oil Co. No. 1 Dunlap, S. Seale Sur. Spudded.
C. A. McDaniels No. 1 Trammel, H. Hunter Sur. T.D. 2,314 ft.; S.O.; acidizing.
C. A. McDaniels No. 1 Tinkle, S. Seal Sur. T.D. 2,681 ft.; P.B. 2,490 ft.; swbg. oil.
George Young No. 1 Schmidt, 1,265 ft. E line, 150 ft. S line, Williams Sur. Set csg. 1,362 ft.; W.O.C.

Cameron County

Saxet Prod. Co. No. 1 Port Isabel Irr. Co., 600 ft. N line Loma Alta Lake, Sh. 29, Espiritu Santo Gr. Loc.
Stapper Petroleum Corp. No. 1 Port Isabel Irrigation Co., Blk. 17, P.I.I.Co. Subd., Santo Gr. Drlg. 5,796 ft.

Dimmitt County

Wilcox O. & G. Co. No. 1 Light ranch, 330 ft. N and E line, sec. 67. R.U.

Duval County

Argo Oil Co. No. 3 Smith-Corkell, Sur. 498. T.D. 3,035 ft.; D.&A.
Clark & Cowden No. 3 Richardson, 2,310 ft. W line, 330 ft. S line, Sur. 5. R.U.
Diamond Halff Oil Co. No. 1 Sinclair, sec. 405. Loc.
Frank Gravis No. 1 Vaello Puig, 330 ft. W line, 2,718 ft. S line, 1,760.73-ac. tr., Sur. 250. Drlg. 4,016 ft.
C. K. Gravis No. 1 Holzapfel, N½ Sur. 42. Drlg. 2,311 ft.
H. F. Grimm No. 1 Mew, Sur. 289. Set sur. csg.; W.O.C.
Intrepid Oil Co. No. 3 Parr, SW¼, sec. 26. Loc.
Magnolia Pet. Co. No. 1 D.C.R.C., 330 ft. S and W lines, lse., sec. 902. Loc.
Texas Co. No. 2-C D.C.R.C., Sur. 194. Drlg. 113 ft.
E. R. Thomas Estate, SW¼, Sur. 26. Drlg. 627 ft.

Edwards County

Auld, Dodson & Lyman No. 1 Rigsby, sec. 16. R.U.
I.T.I.O. No. 1 Love & Evans, sec. 66, Blk. 3, G.W.T.&P. Ry. Sur. (Workover). Prep. deepen from O.T.D. 3,002 ft. to 6,250 ft.

Frio County

Amerada Pet. Corp. No. 1 Harriman, Flores Sur. 306. Drlg. 4,183 ft.

Guadalupe County

Louis Crouch No. 1 King, J. D. Clements Sur. R.U.
Felmont Oil Corp. No. 1 William, J. Cantu Sur. D.&A. 2,199 ft.
Lincoln Pet. Co. No. 1 Baenzinger, Mansola Sur. Set csg. 1,990 ft.; drlg. plugs.

Jim Hogg County

Cole Pet. Co. No. 1 Yeager, Sur. 452. R.U.
Gifford Oil Co. No. 1 Armstrong, Sur. 43. 5-min. D.S.T. 3,056-63 ft.; made 400 lbs. dry gas; sd. 3,056-61 ft.; T.D. 4,358 ft.; D.&A.
Gifford Oil Co. and Purnell No. 2 Armstrong, S½, Sur. 43. M.I.M.
S. Payne No. 1 Holbien, 150 ft. N and W lines, Blk. 10, Sh. 3, Animas Gr. R.U.

Jim Wells County

Arkansas Fuel Oil Co. No. 1 G. H. Bierstadt, Blk. 32, Reynolds Sur. T.D. 5,017 ft.; P.B. 4,665 ft.; to sdtrk.; D.&A. 5,-000 ft. in sdtrkd. hole.
Baltic Drlg. Co. No. 1-A Owens, Sur. 181. Sd. 5,750-5,800 ft. cg. 5,816 ft.
Tesmalis & Reese No. 1 Martha Earhart, 330 ft. S and W lines, 80-ac. tr., Suggs Sur. Drlg. 1,517 ft.

Karnes County

De Graff & Reele No. 1 Cochran, 460 ft. E line, 160 ft. S line, McConnell Lge. Drlg. 573 ft.
Victoria Drlg. Co. No. 1 John Yanta, J. Hardaway Sur. T.D. 1,511 ft.; S.D.
Victoria Drlg. Co. No. 1 Wm. Yanta, J. Hardaway Sur. M.I.M.

Kerr County

S. W. Forrester No. 1 Bailey, Brendle Sur. No. 408. Washing down 740 ft.

Live Oak County

R. A. David et al No. 1 Border Nat'l Bank, 150 ft. N and W lines, 150-ac. tr., Hayes Sur. D.&A. 1,275 ft.
R. H. Feltner No. 2 Sanger, 330 ft. W line, 990 ft. N line, Sur. 385. R.U.
E. M. Jones No. 3 Ezell, SE¼, sec. 3, Ezell ranch. Loc.
Loma Oil Co. No. 2 Cardwell, 95-ac. tr., Sparks Sur. Loc.
Marzo Oil Co. No. 1 Chestnut, L. Ayres Sur. Pettus sd. 1,240-48 ft.; T.D. 1,275 ft.; D.&A.
R. B. Sanger No. 1 Adams, 330 ft. N and E lines, 80-ac. tr., Sur. 122. R.U.
L. W. Steiren No. 1 Lang, N. Simmons City. S.D. 396 ft.

McMullen County

Big Rock Oil Corp. No. 1 Martin, Uleiting Sur. No. 6. S.D. 532 ft.
Howell Oil Corp. No. 1 Martin, Sur. 213. Set csg. 60 ft.; W.O.C.
Humble O. & R. Co. No. 1 Gouger, 330 ft. S and E lines, SE¼, sec. 46. Loc.
Rowan & Hope No. 1 Rhodes, NE¼ sec. 18, Seale & Morris Sur. M.I.M.

Medina County

A. Chmel No. 1 Odem, 160 ft. W line, 493 ft. N line tr., Castro Sur. 174. M.I.M.
Gates, Hill & Mead No. 1 Kreisle, Sur. 908. Loc.

Nueces County

L. Glasscock No. 1 Kansas Life. Ins. Co., 330 ft. N and W line, sec. 196. M.I.M.
E. M. Jones No. 1 Cook, 2,500 ft. N line, 330 ft. E line, 546-ac. tr., Guadrilla Irr. Co. Sur. 139. Sd. 3,532-39 ft.; slight S.G.; cg. 6,242 ft.
Sloan & Green No. 1 Cassens, sec. 26, Longorio Sur. R.U.
Southern Minerals Corp. No. 1 R. King, sec. 32, King Farm Lots. D.S.T. 4,021-33 ft.; rec. 400 ft. oil and mud and 45 ft. S.W.; 6 lbs. W.P. in 5 min.; drlg. sh. 4,716 ft.; rng. elec. sur.
Steve Paul No. 1 Smith, 1,650 ft. E line, 330 ft. S line, sec. 38, Flour Bluff Encinal Trs. Loc.
Baltic Drlg. Co. No. 1 Poenisch, Lot 2, Blk. 32, Flour Bluff Addn. (workover of former Hurlburt test). O.T.D. 6,250 ft.; R.U.; S.D.

Real County

Sun Oil Co. No. 1 Dietert, 1,980 ft. E line, 660 ft. S line, sec. 7, G.W.T.&B. Sur. Drlg. 5,643 ft.

San Patricio County

Buckingham Oil Co. No. 1 G. Davis, sec 27. Loc.
Eleanor Oil Co. No. 1 Davis, 208.8-ac. tr., G. Grover Sur. M.I.M.
Eleanor Oil Co. No. 1 Green Est., 1,674-ac. tr., T. T. Williamson Sur. Sds. 6,573-77 ft., 6,580-90 ft. and 6,592-96 ft.; odor oil; drlg. 6,669 ft.

Phillips Pet. Co. No. 1 Schmidt, sec. 81, Paul Subd. Attempted D.S.T. 5,330-53 ft.; failed to hold; rec. 100 ft. mud and oil odor; cg. sd. 5,966 ft.
Windsor Oil Co. No. 1 Bissett, Tr. 3, Trivoli Subd., Crockett Sur. Loc.

Starr County

Cook, Morris & Arnold No. 2 S.C.C.C., Blk. 23, Porc. 89. R.U.
C. T. Daye No. 1 Seabury, Sh. 5, Porc. 75. Drlg. 326 ft.
Donroy Oil Co. No. 1 Ramon, 2,400 ft. SE line, 150 ft. SW line, sec. 150. Drlg. 1,063 ft.
G. Harroun No. 1 Guerra, Blk. 6, Porcs. 55 and 56. Drlg. 840 ft.

Webb County

J. M. Anderson No. 1 Juarez, Blk. 13, Sur. 1,111. T.D. 2,526 ft.; D.&A.
Boiling & Coffey No. 1 So. Tex. Oil Co., Sur. 768. Loc.
E. Garner No. 1 Saldivar, Blk. 12, Sur. 657, J. V. Borrego Gr. Set sur. csg.; W. O.C.
O. W. Killam No. 1 fee, Sur. 1,690. D.&A. 5,246 ft.
O. W. Killam No. 1 Laurel Bros., Sur. 333. Loc.
Lu-Tex Oil Co. No. 1-A Lone Star Constr. Co., Blk. 26, Porcs. 12, 13 and 14. Drlg. 1,811 ft.
Mills Bennett Prod. Co. No. 2 Slator, Blk. 89, Mission Subd., Borrego Gr. Loc.
Joe Palmer No. 1 Laredo Natl. Bank, 1,980 ft. S and W lines, Sur. 463. D.&A. 2,427 ft.
Vernor & Carson No. 1 Webster. Drlg. 2,130 ft.
Wilcox O. & G. Co. No. 1 Dunbar, Sur. 2,292, J. Galen Gr. T.D. 5,355 ft.; D.&A.

Willacy County

Ruez-Morton, Inc., No. 1 F. Armendiaz, C Lot 9, Sh. 4, San Juan de Carricitos Gr. Drlg. 537 ft.
Ruez-Morton, Inc., No. 1 Johnson-Stillman, Lot 14, Blk. 25, Sh. 44, San Juan de Carricitos Gr. Drlg. sh. 526 ft.
Shell Pet. Corp. No. 1 Yturria, Sh. 64, San Juan de Carricitos Grant (workover). T.D. 7,662 ft.; to drill deeper; R.U.

Zapata County

Fidelity Oil & Roy. Co. No. 1 Gopher Unit, Blk. 9, Sur. 6. T.D. 1,355 ft.; T.A.
H. Guinn Lewis No. 1 S. Benavides, Blk. 39, Villa Gr. Drlg. 556 ft.
Mills Bennett Prod. Co. No. 1 Martinez, Blk. 84, Sh. 1, Grullo Gr. T.D. 2,515 ft.; P.B. 1,196 ft.; swbd. dry; stdg.
R. Wheeless No. 1 Welch, Blk. 1, E. K. Bateman Subd. S.D.; repairs; 1,300 ft.

Zavalla County

Wilcox O. & G. Co. No. 1 Gillman, sec. 11. Drlg. 2,546 ft.

S. W. TEXAS PROVEN

McCampbell—Aransas-San Patricio Counties

Atlantic Ref. Co. No. 2 Maryland Trust Co., 330 ft. N and E lines, Blk. 23. Drlg. 2,577 ft.
Atlantic Ref. Co. No. 4-B McCampbell, Lot 7, Blk. 40. Cg. 6,512 ft.
Atlantic Ref. Co. No. 4-C McCampbell, Lots 11 and 12, Blk. 40. Drlg. 1,562 ft.
Buckingham Oil Co. No. 2-B McCampbell, Lot 13, Blk. 40. Drlg. 7,123 ft.
Buckingham Oil Co. No. 4-A McCampbell, Blk. 41, Orick Sur. Sd. 6,540-48 ft.; set csg. and perf. 6,540-44 ft. and 6,546-48 ft.; sanded up; reworking.
Buckingham Oil Co. No. 5-A McCampbell, Blk. 41. R.U.
Collins & Broughton No. 1 McCampbell, Lot 5, Blk. 37, McCampbell Subd. Sd. 6,546-58 ft.; set csg. 6,560 ft.; W.O.C.
Landreth Prod. Co. No. 1 McCampbell, Lot 4, Blk. 40. Set sur. csg.; W.O.C.
J. Nelson No. 1 Riggs, 330 ft. NW line, 213 ft. SW line, 6.46-ac. tr., Trs. 12 and 13, Blk. 16. Loc.
Rutherford Oil Co. No. 1 Scrivner, 330 ft. NE and NW line, Lot 16. Drlg. 1,267 ft.

Plummer—Bee County

H. J. Weinert No. 1 Smith, Plummer. Chessman Sur. Cg. 2,812 ft.

Strouch—Bee County

Dirks Bros. No. 2 Strouch, 133-ac. tr., J. M. Uranga Gr. Loc.

Alta Mesa—Brooks County

Standard of Texas No. 1 Garcia, 1,398 ft. N and W lines, Tr. 1, Sh. 1-A, La Mestina de Gonzales Sur. T.D. 2,566 ft.; washing in.
Standard of Texas No. 3 Garcia, 615 ft. S line, 465 ft. W line, Tr. 1, Sh. 1-A, La Mestina de Gonzales Sur. T.D. 2,489 ft.; sd. 2,470-75 ft.; washing in.

Alta Verde—Brooks County

L. & W. Oil Co. No. 1 Wm. Singer, Blk. 8, Sur. 436. Sd. 515-20 ft.; set 5¼-in. csg. 934 ft.; T.D. 948 ft.; tested sulfur wtr. with S.O.; T.A.

Branyon—Caldwell County

Adams & Lyles No. 3 Ellison, D. Cooper Sur. Cg. 2,047 ft.
R. B. Byrd No. 1 McGee, J. A. Neal Sur. Drlg. 212 ft.
J. W. Leonard No. 1 White, 800 ft. N Lockhart Townsite. T.D. 2,306 ft.; drlg. plugs.
Lincoln Pet. Co. No. 4 Branyon, Cooper Sur. Loc.
Lincoln Pet. Co. No. 5-B Branyon, J. I. Miller Sur. Top Edwards 2,335 ft.; T.D. 2,335½ ft.; comp.; 5 B.P.H. on pmp.
Lincoln Pet. Co. No. 2 Callihan, D. Cooper Sur. T.D. 2,170 ft.; top chalk 1,891 ft.; comp.; 30 B.P.D.
Taylor Pet. Co. No. 1 Caldwell County, 4-ac. tr., D. Cooper Sur. Drlg. 566 ft.
Whisenant & Trenchard No. 1 Young, J. R. Miller Sur. T.D. 2,225 ft.; R.U. to pmp.

Charamousca—Duval County

N. V. Duncan No. 5 Worden & Draught, Sur. 151, M.I.M.
Magnolia Pet. Co. No. 2 D.C.R.C., W½, Sur. 152. Drlg. 320 ft.

Colmena—Duval County

Conservative Oil Co. No. 1 Brown-Lentz, Blk. 12, sec. 51. Sd. 1,460-70 ft.; comp.; 50 B.P.D.
Conservative Oil Co. No. 2 Brown-Sentz, Blk. 12, sec. 51. M.I.M.
Conservative Oil Co. No. 4 D.C.R.C., Blk. 12, Sur. 51. P.B. from T.D. 1,521 ft.; D.&A.
Hooper & Rutherford No. 1 D.C.R.C., 19-ac. tr., sec. 51. T.D. 1,499 ft.; comp.; 50 B.P.D.
Hooper & Rutherford No. 2 D.C.R.C., Tr. 13, sec. 51. T.D. 1,511 ft.; D.&A.
Wellington Oil Co. No. 5 D.C.R.C., Blk. 10, sec. 51. R.U.
Wellington Oil Co. No. 8 D.C.R.C., Blk. 21, sec. 53. Comp.; 6,000,000 ft. gas; T.D. 1,378 ft.

Driscoll—Duval County

Continental Oil Co. No. 13-A Sevier, Sur. 448. Drlg. 3,396 ft.

El Mesquite—Duval County

Rogers & Rogers No. 3 Pena, El Mesquite Gr. R.U.

Government Wells—Duval County

Magnolia Pet. Co. No. 6 Harvill, NE¼ SW¼, Sur. 64. Sd. 2,493-99 ft.;.comp.; 7 bbls. oil, 35 bbls. S.W. per day; T.D. 2,502 ft.
Magnolia Pet. Co. No. 16 Wilson, Sur. 248. Drlg. 1,016 ft.
Southwest Prod. Corp. No. 2 Luptack, SE¼, Sur. 41. R.U.

Hoffman—Duval County

Bridwell Oil Co. No. 2-A Green, Sur. 118. Comp.; 147.72 B.P.D.; sd. 2,833-55 ft.
Bridwell Oil Co. No. 3-A Green, Sur. 118. Drlg. 2,016 ft.
Bridwell Oil Co. No. 7-B Hoffman, Sur. 122. Sd. 2,697-2,712½ ft.; completing.
Duval Oil Corp. No. 11 Hoffman, Sur. 118. R.U.
Standard of Kansas No. 4 Green, Sur. 118. Loc.

Kohler—Duval County

Chiquita Oil Co. No. 1 Peters, 162-ac. tr., Sur. 162. Drlg. wtr. well.
Humble O. & R. Co. No. 55-A Kohler, Sur. 164. Set csg. 2,633 ft.; drld. plugs; flwd. 24 B.P.D.
Windsor Oil Co. No. 5-B Peters, Sur. 34. Loc.

Labbe—Duval County

Magnolia Pet. Co. No. 3 Labbe, 330 ft. N and E lines, Sur. 221. T.D. 880 ft.; losing returns.

Loma Novia—Duval County

Coffield & Lanning No. 1 Ritter, 330 ft. S line, 1,120 ft. W line, sec. 73. Cg. ahead 2,553 ft.
Duval Oil Corp. No. 32 Bishop, sec. 57. Loc.
Eastern Texas Prod. Co. No. 5 Hubbard, Sur. 71. Tstg. sd. 2,572 ft.
F. J. Gravis No. 2 Hahl, SE¼, NE¼, sec. 64. R.U.
Hamil & Smith No. 4 Pure-Ruiz, sec. 41. Sd. 2,574-94 ft.; comp.; 200 B.P.D.
Humble O. & R. Co. No. 18-A Hubbard, Sur. 83. T.D. 2,843 ft.; comp.; 13 B.P.H.; ½-in. ck.
Humble O. & R. Co. No. 19-A Hubbard, Sur. 83. T.D. 2,772 ft.; comp.; 31 B.P.H.; ½-in. ck.
Humble O. & R. Co. No. 14-B Hubbard, Sur. 42. Comp.; 25 B.P.H.; ½-in. ck.; T. D. 2,786 ft.
Humble O. & R. Co. No. 19-B Hubbard, Sur. 42. T.D. 2,772 ft.; comp.; 31 B.P.H.
Humble O. & R. Co. No. 23 Ruiz, Sur. 553. T.D. 2,780 ft.; swbg.
Humble O. & R. Co. No. 24 Ruiz, Sur. 553. Drk.
Humble O. & R. Co. No. 28 Ruiz, Sur. 553. T.D. 2,858 ft.; comp.; gasser.
Magnolia Pet. Co. No. 13 Herbst, Sur. 70. T.D. 2,743 ft.; tstd. S.W.; cmtg. csg.
Ralph Ogden No. 2-A Pure Ruiz, Sur. 41. Sd. 2,590-95 ft.; set csg. 2,589 ft.; W.O.C.
Texas Co. No. 22 Bishop, Sur. 57. Set csg. 2,567 ft.; comp.; 458 B.P.D. on 2-in. ck.; T.D. 2,567 ft.
Texas Co. No. 23 Bishop, N¼, Sur. 57. Drlg. 1,653 ft.

Lopez—Webb—Duval Counties

Cox & Hamon No. 8 Peal, Sur. 796. Comp.; 10 B.P.H.; jetting.
Cox & Hamon No. 7 Peters-Coats, Sur. 322. Sd. 2,171-74 ft.; comp.; 288 B.P.D.
Humble O. & R. Co. No. 9-C D.C.R.C., Sur. 901. Drlg. 2,147 ft.
Humble O. & R. Co. No. 12 D.C.R.C., Sur. 901. Set csg. on sd. 2,088 ft.; comp.; 8.28 B.P.H.; sd. 2,070-88 ft.
Humble O. & R. Co. No. 13-C D.C.R.C., Sur. 901. Rng. csg. 2,083 ft.
Humble O. & R. Co. No. 14-C D.C.R.C., Sur. 901. Set csg. 2,083 ft.; W.O.C.
C. F. Lewis No. 14-A Lopez, sec. 110. Comp.; 10 B.P.H.; T.D. 2,266 ft.
Mortimer & Springer No. 28-B Peal, Sur. 794. Sd. 2,189-91 ft.; set csg.; W.O.C.
Mortimer & Springer No. 1 Valadez, Sur. 73. Drlg. 2,156 ft.
Sierra Oil & Rov. Co. No. 3 Billings, Sur. 113. T.D. 3,437 ft.; comp.; 6 B.P.H.; jetting.

Lowe Ranch—Duval County

Atlantic Ref. Co. No. 1 Lowe, 330 ft. E line, 1,678 ft. SW of NE cor., Sur. 466. Sd. 2,560-64 ft.; S.W..; cg.

Palangana—Duval County

F. J. Gravis No. 2-A Schallert, Sur. 255. R.U.
Penn Palangana Oil Co. No. 3 C. K. Gravis, Sur. 250. R.U.

Piedra Lumbre—Duval County

Magnolia Pet. Co. No. 13 D.C.R.C., sec. 100. T.D. 1,978 ft.; comp.; 150 B.P.D.
Magnolia Pet. Co. No. 14 D.C.R.C., Sur. 100. Sd. 1,978-90 ft.; set csg.; W.O.C.

Seven Sisters—Duval County

A. J. Brinkdeter No. 1 Garcia, Sur. 212. Cg. 2,463 ft.
Humble O. & R. Co. No. 7 Dowdy, sec. 272. Set csg. 2,551 ft.; W.O.C.
Relience Oil & Roy Co. No. 2 Lichtenberger, S½, sec. 225. R.U.
Texas Co No. 12 Badgley, Sur. 307. Drlg. 2,017 ft.
Texas Co. No. 13 Badgley, Sur. 307. T.D. 2,514 ft.; comp.; 1,098 B.P.D.; sd. 2,483-2,514 ft.
Westheimer & Daube No. 31 Campos, Sur. 224. Tstg. sd. 2,709 ft.
Westheimer & Daube No. 32 Campos, Sur. 224. Tstg. sd. 2,717 ft.

Sweeden—Duval County

Hiawatha O. & G. Co. No. 1 Herberger, 330 ft. S and W lines, sec. 10, Agua Poquita Gr. Sd. 5,875-87 ft.; T.D. 5,896 ft.; swbd. S.W. and S.S.O.; P.B. to retest.
Hiawatha O. & G. Co. No. 1 Miller, 330 ft. N and E lines, sec. 24, Agua Poquita Gr. 4-min. D.S.T. 5,868-87 ft.; tool slpd.; rec. 480 ft. gas-cut mud; odor oil; comp.; 135 B.P.D.; ⅛-in. ck.

Pearsall—Frio County

Amerada Pet. Corp. No. 8 Halff & Oppenheimer, S. A. Ditch Sur. 1,104 (W.O.). Drlg. 7,372 ft.

North Pettus—Goliad-Karnes Counties

Magnolia Pet. Co. No. 13 Porter, 330 ft. SE line lse., 660 ft. NE of No. 6, B.&B. Sur. 23. Comp.; est. 25 B.P.D.; sd. 3,718-32 ft.

Slick—Goliad County

Dirks Bros. No. 1 Allen, W. C. Brown Sur. R.U.

Clark—Guadalupe County

Diamond Halff Oil Co. No. 2 Larison, G. DeWitt Sur. Spudded.
Kenedy & Crowley No. 1 Johns, Davis Sur. T.D. 2,507 ft.; completing.
D. Mulholland No. 1 Johns, J. K. Davis Sur. Spudded.

Darst Creek—Guadalupe County

J. E. Clark No. 1 Anderson, 8 mi. W of Seguin. Drlg. 326 ft.
Diamond Halff Oil Co. No. 1 Bibbs, Robinson Sur. Top Edwards 2,852 ft.; drlg. 3,572 ft.
Freeman Oil Co. No. 3 Larrison, G. DeWitt Sur. T.D. 2,700 ft.; dry; P.B. 2,450 ft.; W.O.C.
Riddle Oil Co. No. 1 Williams, G. DeWitt Sur. R.U.
Saxet Prod. Co. No. 1 Wilson, G. DeWitt Sur. No. 13. Drlg. plugs in chalk.
V. G. Schimmel No. 2 Grimm, DeWitt Sur. T.D. 2,525 ft.; set csg. 2,383 ft.; W.O.C.
T. Staats No. 1 Wilson, G. DeWitt Sur. Set sur. csg.; W.O.C.
Watson No. 1 DeLancey, 400-ac. tr. Cg. 2,556 ft.

Nolte—Guadalupe County

Riddle Oil Co. No. 1 Herff, Gortari Sur. No. 76. T.D. 2,160 ft.; set csg. on 100-ft. sat. chalk; drlg. plug.
Riddle Oil Co. No. 2 Nolte, Lowell Sur. 16. Drlg. 1,726 ft.
Wheelock & Collins No. 1 Warnecke, 335-ac. tr. R.U.

Zoborowski—Guadalupe County

Louis Crouch No. 1 Gatzke, Clements Sur. Comp.; small well; top chalk 2,183 ft.; T.D. 2,263 ft.

LaBlanca—Hidalgo County

Gulf States Oil Co. No. 3 Engleman, Lot 3, Blk. 70, Las Mestanas Gr. (workover). T.D. 8,123 ft.; set csg. on bottom; perf. 8,016-21 ft. and 8,024-34 ft.; no shows; T.D. 8,123 ft.; D.&A.
Sterling O. & R. Co. No. 1 Engleman, 660 ft. N and E lines, Lot 8, Blk. 95. Sd. 7,495-7,555 ft.; S.O.&G.; drlg. 7,816 ft.

Mercedes—Hidalgo County

Union Sulphur Co. No. 7 American Rio Grande, Tr. 2,309, Blk. 59 (workover). Perf. csg. 7,481-91 ft.; P.B. 7,592 to 7,513 ft.

Samfordyce—Hidalgo-Starr Counties

Cosmo Petroleum Co. No. 1 Guerra, Sh. 254, Porc. 40. Drlg. 2,817 ft.
Ralph Fan No. 2 Flores, 28-ac. tr., Sh. 250, Porc. 38. Spdd.
Ralph Fan No. 3 Flores, Sh. 250, Porc. 38. Sd. 2,935-56 ft.; comp.; 150 B.P.D.; ¼-in. ck.
Harrison & Danvers, Inc., No. 1 Pena, 16.5-ac. tr., Tr. 250, Porc. 38. Comp.; 120 B.P.D.; T.D. 2,986 ft.
Henshaw Bros. No. 1 Elizando, Porc. 39. Sd. 3,678-82 ft.; S.G.; set csg. 3,110 ft.; perf. 3,064-74 ft.; comp.; gasser.
Val-Tex Oil Co. No. 2 Chapa, Tr. 250, Porc. 39. Set csg.; T.D. 3,008 ft.; perf. 2,944-46 ft.; completing.
Young & Bonnear No. 1 Diaz, Tr. 331, Porc. 40. No report.

Alworth—Jim Hogg County

French Oil Co. No. 2 Garza, Blk. 1, Sur. 269. Sd. 1,033-35 ft.; set csg.; S.G.
French Oil Co. No. 3 Garza, Blk. 1, Sur. 261. M.I.M.

Bentonville—Jim Wells County

Tom Graham No. 2 Luby, Share 4, Los Presnos de Abajo Gr. Perf. 5,423-33 ft.; rng. screen.
LaJita Co. No. 3 Pope, sec. 20. Loc.

West Premont—Jim Wells County

Diamond Halff Oil Co. No. 1 Peterson, Lots 104 and 105, sec. 76. T.D. 2,250 ft.; set csg.; W.O.C.
C. G. Glasscock No. 1 Ritter, Lot 45, Haldeman Subd., sec. 76. W.O.; R.U.
Gouger & Mode No. 1 Bennett, Lots 55 and 58, Haldeman Subd., sec. 76. Set csg. 2,259 ft.; W.O.C.
Tom Graham No. 4-A Bennett, Lots 56 and 57, sec. 76. Comp.; 110 B.P.D.; jetting; perf. 2,243-53½ ft.; T.D. 2,256 ft.
Tom Graham No. 1 Laughlin, sec. 76. Sd. 2,257-69 ft.; perf. 2,257-65 ft.; T.D. 2,351 ft.; D.&A.
Graham & Gilcrease Oil Co. No. 1-C Bennett, Lots 89 and 90, Haldeman Subd., sec. 76. Loc.
Tom Graham and Gilcrease No. 3-B Bennett, Sur. 76. Set sur. csg.; W.O.C.
Securities Royalty Co. No. 1 Miller, Lots 40 and 41, sec. 231. Sd. 2,330-36 ft.; set csg.; comp.; est. 100 B.P.D.
S. J. Sloan No. 1 Nash, Lot 102, Haldeman Subd., sec. 75. Set csg. 2,350 ft.; T.D. 2,355 ft.; comp.; 107 B.P.D. on ⅛-in. ck.

Sandia—Jim Wells County

O. W. Killam No. 1-B Wade, Lopez de Jean Gr. R.U.
J. E. Walsh No. 2 Wade, Lot 2, Blk. C, Bode Subd. T.D. 4,100 ft.; D.&A.

Kingsville—Kleberg County

Great States Oil Co. No. 1 Kivlin, Blk. 4, sec. 39. S.D. 2,485 ft.
Humble O. & R. Co. No. 9 Kleberg, Lot 2, sec. 40. Drlg. sh. 942 ft.

Oakville—Live Oak County

Simmons O. & G. Co. No. 1 McGriff, 150 ft. S and E lines, 94-ac. tr., Romero Sur. Drk.

Calliham—McMullen County

Conservative Oil Co. No. 17 Stitz, J. Gardner Sur. Loc.
R. P. Lightfoot No. 9 Lark, Blk. 118, Scrugham Sur. Loc.

Loma Alta—McMullen County

J. T. Lanier No. 1 Hagist, SE¼, N½, Sur. 481. Loc.

Ina—Medina County

Ina O. & R. Co. No. 3 Viola Wilson, Durst Sur. Comp.; 6 B.P.D.; sd. 887-92 ft.

Agua Dulce—Nueces County

Stoddart & Moss No. 1 Colman, 330 ft. NW and NE lines, SE¼ SW 330-ac. tr., sec. 206. S.D. 6,885 ft.; blew out and closed in; to attempt comp. through drill stem; S.D.
Texon Drlg. Co. No. 2-B Sevier, 880-ac. tr., W. W. Chapman Lds., Palto Alto Gr. Set 16-in. csg. 300 ft.; T.D. 6,350 ft.; rng. csg.
United Prod. Co. No. 1 Harvey, 1,100 ft. W line, 1,050 ft. N line, tr., M. Garza Sur. Oil sd. 7,382-95 ft.; cap. 7,396-98 ft.; top S.W. sd. 7,398 ft.; cg. 7,427 ft.
J. P. Walker et al No. 2 ingram, Blk. 8, sec. 6, Ross Peters Subd. Prep. spud.

Chapman Ranch—Nueces County

Seaboard & Allen No. 1-B Chapman, 1,980 ft. N line, 660 ft. W line, sec. 37. R.U.
Seaboard & Allen No. 3 Chapman, 1,650 ft. W line, 330 ft. S line, sec. 38. Set csg. 1,200 ft.; W.O.C.

Clara Driscoll—Nueces County

Houston Oil Co. No. 1 Sevier, 330 ft. S and W lines, 77.1-ac. tr., Quadrilla Irr. Co. Sur. Loc.
Magnolia Pet. Co. No. 2 Sevier, 330 ft. S and W lines, 80-ac. tr., R. Russell Sur. Sd. 4,490-96 ft.; S.W.; drlg. 5,793 ft.
Texas Co. No. 1 C. D. Sevier, Wm. Gambel Sur. T.D. 5,437 ft.; D.&A.
Wellington Oil Co. No. 14 Sevier, 254.7-ac. tr., Wm. Gambel Sur. D.S.T. 5,425½-33 ft.; rec. 60 ft. oily mud; 350 lbs. W.P.; set csg.; W.O.C.

Flour Bluff—Nueces County

Humble O. & R. Co. et al No. 1 Golden, Lot 30, Blk. 47. Sd. 6,645-69 ft.; comp.; 162.7 B.P.D.
Humble O. & R. Co. et al No. 2 Golden, Lot 19, Blk. 47. Drlg. 229 ft.
Humble O. & R. Co. et al No. 3-A Miller, Lot 20, Blk. 56. Set csg. 6,667 ft.; W.O.C.
Humble O. & R. Co. No. 2-B Miller, Blk. 21, sec. 48. Prep. test; T.D. 6,657 ft.
Humble O. & R. Co. et al No. 3-B Miller, Lot 4, Blk. 48. Sd. 6,642-65 ft.; comp.; 193.11 B.P.D.; ⅛-in. ck.
Humble O. & R. Co. et al No. 7 Phillips, Blk. 14, sec. 55. Set csg. 6,658 ft.; W.O.C.
Humble O. & R. Co. et al No. 1 Ritter, Lot 25, Blk. 55. Set csg. 6,648 ft.; comp.; 146 B.P.D.; ⅛-in. ck.; T.D. 6,658 ft.
Humble O. & R. Co. et al No. 1-A Solar Sevier, Blk. 13, sec. 47. T.D. 6,639 ft.; comp.; 174.64 B.P.D.; ⅛-in. ck.; 7-in. csg. 6,639 ft.
Humble O. & R. Co. et al No. 2-A Solar Sevier, Lot 14, Blk. 47. Drlg. sh. 280 ft.
Humble O. & R. Co. et al No. 3 Webster, Blk. 26, sec. 48. R.U.
S. Paul No. 1 Moulter, Blk. 16, sec. 41, Encinal Garden tracts. Loc.

London—Nueces County

Cosner & Cosner No. 1 Stockton, 330 ft. N and E lines, SW¼, NE¼, sec. 25. Perf. 4,699-4,702 ft.; tstd. S.W.; making squeeze job.
Crown Central Pet. Corp. No. 1 Stockton, 330 ft. S and E lines, NW¼, NE¼, sec. 25. R.U.
Gem Oil Co. No. 1 Stockton, 330 ft. N and W lines, SE¼, NE¼, sec. 25. Sd. 4,551-56 ft.; tstd. S.W.; drlg. ahead to 4,700-ft. sd.

Saxet Heights—Nueces County

Potter P. L. Co. No. 4 Cohen, 15-ac. tr., Villareal Sur. Comp.; 128 B.P.D. on ⅞-in. ck.; sd. 4,070-4,100 ft.
Potter P. L. Co. No. 5 Cohen, 15-ac. tr., Villareal Sur. R.U.
Ben F. Smith No. 1 Snowden, 13-ac. tr., Villareal Sur. R.U.
Taylor Pet. Co. No. 7 Country Club, 88-ac. tr., Villareal Sur. T.D. 7,531 ft.; D.&A.

Saxet—Nueces County

Benson Drlg. Co. No. 1 Morgan, 330 ft. N and W lines, 40-ac. tr., Sur. 315 (W.O.). Old T.D. 4,483 ft.; R.U. to D.D.
Bentex Oil Co. No. 5 Harmon, 330 ft. S and W line, 50-ac. tr., Sur. 416. Drlg. 4,257 ft.
R. B. Bryant No. 6 Frank, Sur. 416. Drlg. 5,621 ft.
Conservative Oil Co. No. 1-A R. Morgan, 80-ac. tr., Sur. 315. T.D. 4,455 ft.; comp.; gasser; R.P. 1,400 lbs.
Conservative Oil Co. No. 3-B Morgan, Sur. 403. Oil sd. 6,914-28 ft.; set csg. 6,928 ft.; perf. 6,750 ft.; S.W.; perf. 5,700 ft.; sd.
A. D. Corgey No. 1 Page, 330 ft. S and E lines, 20-ac. tr., Sur. 716. Drlg. 2,562 ft.
Donico Prod. Co. No. 2 Dounigan, 330 ft. W line, 2,004 ft. S line, 80-ac. tr., sec. 7, Rge. 6, Kinney Lds. Sd. 4,854-60 ft.; set csg.; W.O.C.
L. Glasscock No. 2 Johns, 20-ac. tr., MacGregor Sur. 582. M.I.M.
L. Glasscock No. 3 Hunter, 990 ft. N line, 330 ft. W line, 160-ac. tr., Dunn Sur. 312. Perf. 4,860-63 ft.; comptg.; T.D. 6,959 ft.
Great States Oil Co. and Violet Oil Corp. No. 7 McGregor-Belk, Sur. 311. D.S.T. 6,318-26 ft.; recd. 1,000 ft. oil, 90 ft. S.W.; sd. 6,208-26 ft.; set csg. 6,326 ft.; cleaning into pits.
W. H. Harrison Drlg. Co. No. 1 Taggert, 50-ac. tr., Sur. 401. T.D. 5,160 ft.; S.D.; W.O.O.
Hiawatha Oil Co. No. 8 Hutchins-Stillwell, Lot 30, Sheppard Farm Lds. R.U.
Hiawatha Oil Co. No. 9 Hutchins-Stillwell, Lot 34, Sheppard Lds. Perf. 5,762-68 ft.; comp.; gas and dist. well on 5/32-in. ck.; C.P. 1,900 lbs.; T.D. 5,847 ft.
Houston Oil Co. No. 2 fee, Sur. 582. Drlg. 3,030 ft.
Houston Oil Co. No. 19 Morgan, 493.63-ac. tr., sec. 7, Rge. 5. Set csg. 4,425 ft.; sd. 4,420-25 ft.; comp.; 216 B.P.D.; ⅞-in. ck.
Houston Oil Co. No. 20 Morgan, 493-63-ac. tr., sec. 7, Rge. 5. Sd. 4,419-23 ft.; set csg. 4,419½ ft.; comp.; 208 B.P.D.; ⅞-in. ck.
Houston Oil Co. No. 21 Morgan, sec. 7, Rge. 5. Set 10-in. csg. 992 ft.; W.O.C.
H. H. Howell No. 3 Hutchins, 80-ac. tr., Sur. 416. Cg. 6,257 ft.
H. H. Howell No. 1 R. Morgan, Blk. 3, Roberts Subd., Sur. 415. Sat. sd. 6,735-42 ft.; set csg.; perf. 6,726-30 ft.; completing.
H. H. Howell No. 2 Morgan, Blk. 3, NW¼, Sur. 415. Set 10¾-in. csg.; W.O.C.
Maryland Corp. No. 6 Morgan, Sur. 592. Perf. csg. 4,422-26 ft.; comp.; 144.7 B.P.D.; 5/32-in. ck.; sd. 5,823-27 ft.
Mills Bennett Prod. No. 4 Kassner, 120-ac. tr., sec. 409. Sd. 4,091-97 ft.; D.&A.
Morgan & Chapman Minerals No. 6 Morgan Clark, NE¼, Sur. 405. P.B. 3,500 ft.; to sdtrk.
Pan American Prod. Co. No. 5-C Morgan, E½, SW¼, Sur. 405. R.U.
Pan American Prod. Co. No. 8-A Morgan, 89-ac. tr., Sur. 403. Sd. 5,823-27 ft.; set csg. 5,827 ft.; comp.; 144.72 B.P.D. on 5/32-in. ck.
Pan American Prod. Co. No. 5-A Sagarin, 89-ac. tr., Sur. 403. Sd. 5,802-19 ft.; set csg.; comp.; 139 B.P.D. on 5/32-in. ck.
Pan American Prod. Co. No. 4 Solar Sevier, 40-ac. tr., Sur. 582. Sd. 6,235-73 ft.; set csg. 6,273 ft.; squeeze job; drlg. plug.
Perry & Reed No. 1 fee, 30.4-ac. tr., Villareal Gr. Drlg. 5,943 ft.
Phillips Pet. Co. No. 5 Hutchins, 60-ac. tr., Blks. 29 and 30, Sheppard Farm Lots (W.O.). Oil sd. 6,891-6,901 ft.; perf. 6,893-99 ft.; cleaning in pits.
Republic Nat. Gas Co. No. 18 Dunn, 57.7-ac. tr., Blk. 38, Sheppard Farm Lots. Comp. 111.52 B.P.D. on ⅛-in. ck.; sd. 4,862-68 ft.
Republic Nat. Gas Co. No. 3-A Morgan, sec. 405. Drlg. 1,780 ft.
Richardson Pet. Co. No. 8 Cain & Secrist, 440-ac. tr., Russell Farm Lot 23. Sd. 4,417-25 ft.; comp.; no gauge.
Richardson Pet. Co. No. 10 Cain & Secrist, Blk. 23, Russell Farms. Sd. 4,453-59 ft.; comp.; no gauge.
Richardson Pet. Co. No. 1 Erwin, 5.8-ac. tr., Sur. 500. Drlg. 4,623 ft.
Richardson Pet. Co. No. 7 Quiros, Blk. 40, Sheppard Farm Lots. Sd. 5,796-5,832 ft.; set csg. 5,832 ft.; comp.; 330 B.P.D.; ⅞-in. ck.; sd. 5,822-50 ft.
Richardson Pet. Co. No. 9 Quiros, Blk. 36, Sheppard Lots. Drlg. 5,026 ft.
Southern Minerals Corp. No. 20 Bliss, 120-ac. tr., Sur. 416. Drk.
Southern Minerals Corp. No. 5 Mastin, Sur. 416. Sd. 6,887-97 ft.; D.S.T. at 6,882-97 ft.; rec. 60 ft. dist. at 300 lbs. W. in 5 min.; set csg. 6,909 ft.; perf. 6,901-07 ft.
Southern Minerals Corp. No. 13 Smith, Blk. 4, Sheppard Trs. Drlg. 2,526 ft.
Texon Drlg. Co. No. 5 Vance, Thos. Gallaugher Sur. T.D. 7,000 ft.; S.D.; W.O.O.

Stratton—Nueces County

Camp Prod. Co. No. 1 Wordner, 330 ft. E line, 1,280 ft. N line, sec. 12, Stratton Subd. Cg. 5,523 ft.

Sullivan—Nueces County

Invincible Oil Co. No. 1-B Elliff, 406 ft. S and W lines, 160-ac. tr., Longorio Gr. Drlg. 1,483 ft.

Plymouth—San Patricio County

Magnolia Pet. Co. No. 12 C. C. Bank, 466 ft. N and E lines, Fessenden Sur. R.U.
Plymouth Oil Co. No. 65-C Welder, sec. 71. T.D. 6,900 ft.; cutting and pulling D.S.
Plymouth Oil Co. No. 70-C Welder, sec. 71. Cutting D.S. to pull.
Plymouth Oil Co. No. 72-C Welder, 8,411 ft. S line, 797 ft. E line, sec. 71. Drlg. 3,047 ft.
Stanolind O. & G. Co. No. 2 C. C. Banks, sec. 24, Fourth Addn. Sd. 4,941-45 ft.; S.W.; drlg. 5,877 ft.

Taft Field—San Patricio County

Cage Prod. Co. No. 7 Mayo, 9,560 ft. W line, 990 ft. S line, 60-ac. tr., Ottman Sur. R.U.
Conroe Drlg. Co. No. 8 Pullin, 40-ac. tr., Wm. Burns Sur. Sd. 4,355-66 ft.; S.D.
Esues Oil Co. No. 4 Britton, Lot 8, sec. 6, Third Addn. Set csg. 4,008 ft.; S.D.
Esues Oil Co. No. 6 Britton, Lot 8, sec. 6, Second Addn. Sd. 4,912-17 ft.; rng. csg.
Humble O. & R. Co. No. 1 Blaschke & Mayo, Lot 8, sec. 25. Drlg. sh. 5,223 ft.
Humble O. & R. Co. No. 17 Mayo, Ottman Sur. T.D. 4,923 ft.; rng. csg.

Ricaby—Starr County

Dodd, Tr., No. 1 Wood Est., C Porc. 84, J. of Camargo. Sd. 1,719-35 ft.; blew out; flwg. 250 B.P.D. on ⅛-in. ck.
Moss & Heard No. 3 Ricaby, Porc. 83, J. of Camargo. Sd. 1,604-11 ft.; tstd. oil and mud; set csg. 1,602 ft.; W.O.C.

Barbacoas—Starr County

K. E. Merren et al No. 1 S.C.C.C., Blk. 34, Porc. 89. Drlg. sh. 4,947 ft.

Los Olmos—Starr County

H. C. Owens No. 1 Ivey, Porc. 87. R.U.
St. Marys O. & G. Co. No. 1 Seabury, Porc. 87. Drlg. 432 ft.
Ted Stone No. 1 Kelsey-Bass, Porc. 87, J. of Camargo. Set 6-in. csg. 393 ft.; S.D.

Rio Grande City—Starr County

Clopton & Reed No. 1 Green, Porc. 80. T.D. 4,600 ft.; S.G.; P.B. 1,681 ft.; set csg.; W.O.C.
Clopton & Reed No. 4 Tijerina, Lot 12, Sh. 14-C, Porc. 80. Drlg. 1,129 ft.

Aviator—Webb County

Joe Palmer No. 1 Garcia, Sur. 463. R.U.

Cole—Webb County

Cole Pet. Co. No. 99 Benavides, Blk. 10, Sur. 412. Cg. 3,387 ft.
O. W. Killam No. 49 Bruni, Blk. 5, Sur. 3. T.D. 2,958 ft.; tstd. oil.

O'Hern—Webb County

Hamil & Smith No. 1 Benavides, Blk. 497. T.D. 2,947 ft.; comp.; 300 B.P.D.
Hamil & Smith No. 2 Benavides, Blk. 456. Comp.; est. 500 B.P.D.; T.D. 2,942 ft.
Hamil & Smith No. 4-A Benavides, Sur. 585. Drlg. 846 ft.
Hamil & Smith No. 29 Benavides, Blk. 497, Hale Subd. Comp.; 128 B.P.D.; T.D. 2,925 ft.
O. W. Killam No. 50 Bruni, C Blk. 10, Sur. 8. Sd. 2,448-55 ft.; tstd. oil, gas and S.W.
Magnolia Pet. Co. No. 22 S. Benavides, Blk. 5, O'Hern & Seacord Subd. D.&A.; T.D. 2,950 ft.
Magnolia Pet. Co. No. 23 Benavides, Blk. 1, O'Hern & Seacord Subd. R.U.
J. J. O'Hern No. 1-C Benavides, Hale Subd. Drlg. 177 ft.
H. M. Reed No. 4 Benavides, Blk. 299, Hale Subd. Swbg. 2,916 ft.
Starr Dev. Co. No. 1 Benavides, 330 ft. N and W lines, Sur. 173. M.I.M.
Sun Oil Co. No. 5-A Benavides, Blk. 508. Set csg. 2,531 ft.; comp.; 120 B.P.D. on pmp.; T.D. 2,950 ft.
Sun Oil Co. No. 6-A Benavides, Blk. 377. Drlg. 1,220 ft.
Texas Co. No. 5-A Benavides, Blk. 375. Comptg.; T.D. 2,913 ft.; reworking.

LaSal Vieja—Willacy County

Shell Pet. Corp. No. 1 Yturria, Sh. 64, Carricitos Gr. (W.O.); set csg. 7,630 ft.; T.D. 7,870 ft.

Charco Redondo—Zapata County

W. C. Bob No. 2 Martinez, S¼, Blk. 22, Quandado Gr. Sd. 670-72 ft.; set csg.; M.I.R.

Cuellar—Zapata County

Magnolia Pet. Co. No. 4 Cuellar, Sur. 245. T.D. 1,655 ft.; D.&A.
Magnolia Pet. Co. No. 5 Cuellar, Sur. 245. Set sur. csg.; W.O.C.

Escobas—Zapata County

Allied O. & G. Co. No. 6 Santos, Sh. 6, Fansler Part. Loc.
Earl Calloway No. 4 Bustamente, Sh. 35, Fansler Part. Comp.; 38 B.P.D.; T.D. 1,227 ft.
Earl Calloway No. 2-B Garcia, Sh. 3, Fansler Part. T.D. 2,151 ft.; D.&A.
Earl Calloway No. 4 Garcia, Sh. 3, Fansler Part. Comp.; 10 B.P.D.; T.D. 1,502 ft.
S. Evans No. 7 Bustamente, Sh. 34, Fansler Part. T.D. 1,279 ft.; comp., 15 B.P.D.
W. H. Matthews No. 2 Garcia, Sh. 3, Fansler Part. D.&A. 2,150 ft.
Texas Co. No. 97 Jennings, Cerrito Blanco Gr. Drlg. sh. 1,326 ft.
Zapata Corp. No. 12 Garza, Blk. 22, Douglas Subd. D.&A. 1,743 ft.
Zapata Corp. No. 13 Garza, Blk. 22, Douglas Subd. S.D. 1,523 ft.

Haynes—Zapata County

J. D. Long No. 1 Phelps, Villa Gr. D.&A. 1,604 ft.
Magnolia Pet. Co. No. 25 Haynes, Blk. 7. Comp.; 40 B.P.D.; T.D. 1,150 ft.
Magnolia Pet. Co. No. 27 Haynes, Blk. 7. Comp.; 60 B.P.D.; T.D. 1,178 ft.

Lopena—Zapata County

Dalport Oil Corp. No. 1 Vela, Porc. 20. Drlg. 312 ft.
Venture Pet. Co. No. 2 Ramerez, Blk. 3, Porc. 18. Loc.
Wm. H. Winn No. 1 Vela, Blk. 6, Porc. 20. Drlg. 1,021 ft.

E. C. TEXAS WILDCATS

Anderson County

American Liberty Oil Co. No. 1 G. E. Gauge, Blackfoot area, B. Gilbert Sur. Top Paluxy 6,758 ft.; drlg. 7,200 ft.
Tide Water Oil Co. et al No. 7 Monnig, S. Sanchez Sur., deep test, Long Lake field. Cg. 8,575 ft.

Angelina County

Hicks et al No. 1 Morris, J. Morris Sur., 3 mi. E of Dibol. S.D. 2,167 ft.
B. F. Hoffman No. 1 So. Pine Lbr. Co., B. J. Thompson Sur., C of SE¼ of Blk. 11, NE of Dibol. Fsg. 2,236 ft.
W. Sandler No. 1 B. L. Collins, 150 ft. S and 425 ft. W of D. W. Welch Sur. Drlg. 515 ft.

Bowie County

Thompson & Jaffie No. 1 R. Rosalind, 1,150 ft. N of southerly S line and 150 ft. E line of J. Milam Sur., 3 mi. SW of Redwater. Drk.

Cherokee County

J. G. Mayo Oil Co. No. 1 J. E. Bailey, 330 ft. N and W, in J. H. Russell Sur., 2½ mi. W of Lone Star. Loc.
A. F. Richardson No. 1 F. P. O'Brien, G. S. Clapp Sur., 3 mi. NW of Rusk; 5,000-ft. test. Loc.

Dallas County

Mauldin Oil Co. No. 1 W. E. Howell, S. Layton Sur., 8 mi. E of Grapevine, 6 mi. W of Longmire. S.D.

Falls County

H. H. Bell et al No. 1 A. Garrett, 450 ft. S and 150 ft. W of 100-ac. tr., J. M. Sanches Sur. M.I.R.
A. H. Bell et al No. 1 C. L. Trice, F. Mayham Sur., 1 mi. E of Lott. S.D. 1,220 ft.

Fannin County

Joiner & Owens No. 1 Goss-Morgan, J. Stephens Sur., 16 mi. N of Honey Grove. S.D. 2,810 ft.

Freestone County

C. F. Lytle No. 1 R. Simmons, 23-ac. tr., R. B. Loughbotham Sur., 1 mi. S of Wortham. Loc.
Stroude et al No. 1 P. Mullens, R. D. Sloan Sur., 6 mi. NE of Fairfield. Spudded.

Henderson County

Tide Water et al No. 1 McElreath & Suggett. Austin 3,710-4,110 ft.; top Woodbine 4,137 ft.; top Georgetown 4,990 ft.; drlg. 5,450 ft.

Hopkins County

Rio Oil Co. No. 1 R. A. Logan, 4,750 ft. S and 3,450 ft. W of A. Wetmore Sur. Loc.

Houston County

American Liberty Oil Co. No. 1 Bean, 330 ft. N and E of 61 ac. in A. Evans Sur., NW of Grapeland. Drlg. 6,135 ft.

Hunt County

Penn Oil Corp. No. 1 R. B. Parish, C 100-ac. tr., N. Dauley Sur., 7 mi. NE of Lone Oak. Spudded.
Texola Land Corp. No. 1 J. M. Goin, Jas. Merrick Sur., 2 mi. SW of Wolfe City. S.D. 40 ft.

Kaufman County

Scott & Woodside No. 1 W. and T. Nash, in J. Cortez Sur., 1 mi. E of Scurry. M.I.R.

Lamar County

Lowery-Cutler No. 1 E. C. Porter, Thos. King Sur. Top Georgetown 354 ft.; S.D. 1,647 ft.

Limestone County

A. W. Phillips et al No. 1 E. M. Speight, M. Herrin Sur., 6½ mi. SE of Mexia. S.D. 3,695 ft.
Pure Oil Co. No. 16-T Kendrick, P. Varella Sur., Mexia field. S.D. 405 ft.

Red River County

Carpenter Oil Corp. No. 1 J. M. Roberts, J. Ware Sur., 10 mi. NE of Clarksville. Swbg. 1,180 ft.
Roy I. Carter Drlg. Co. No. 1 J. A. Tutt, C 40-ac. tr. in D. Hart Sur., 2 mi. S of Avery. S.D. 80 ft.

Robertson County

J. E. Mills No. 1 T. Congelosi, G. A. Nixon Sur., 3½ mi. SW of Hearne. Loc.

Van Zandt County

Branch et al No. 1 P. A. Griffiths, 8,500 ft. SE and 1,000 ft. SW of F. Johnson Sur., 3 mi. SW of Crockett. S.D. 1,740 ft.
Humble O. & R. Co. No. 1 L. K. Riggs, W. Daniels Sur. Deep test; W.O.C. 331 ft.
Placid Oil Co. No. 1 Elliott, 2,700 ft. S and 4,750 ft. E line of J. Procella Sur., NE of Grapeland. Drlg. 5,337 ft.
Stroud & Lowe No. 1 P. L. McNeill, J. W. Guest Sur., 4 mi. N of Ben Wheeler. Drlg. 210 ft.

Wood County

B. F. Phillips No. 1 L. E. Pritchard, T. Craddock Sur., 4 mi. S of Winnsboro. Drlg. 2,876 ft.

EAST TEXAS

(Border Counties)

Bowie County

Ferguson & Hill No. 1 Breckenridge, N. Dysas Sur. Drlg. 2,780 ft.
Sutton-Hawkins No. 1 McDuffey, John Ball Sur. Drlg. 3,980 ft.

Cass County

American Liberty No. 1 B. E. Echlos, H. Holbert Sur. Drlg. 2,600 ft.
Frank DeMayo No. 1 W. D. Chew, Robt. Trammel Sur. Comp.; 148 B.P.D.; T.D. 6,010 ft.
Gulf Oil No. 4 Dawson, J. H. Rives Sur., NW cor. lse. Drlg. 5,965 ft.
P. L. Hoffman No. 3 Davis, J. S. Smith Sur. R.U.
Magnolia No. 3 Allday Est., P. Evans Sur. Drlg. 2,200 ft.
Magnolia No. 11 J. E. George, John Collum Sur. 16-in. cmtd. 255 ft.; W.O.C.
Magnolia No. 13 J. E. George, John Collum Sur. R.U.
Magnolia Pet. No. 3 W. M. Hall, Wilson Robinson Sur. Drk.
Magnolia No. 1 Hayer & Thatcher, Jacob Carsner Sur. 10-in. cmtd. 2,030 ft.
Magnolia No. 9 L. Haywood, P. Evans Sur., SE cor. Drlg. 3,125 ft.
Magnolia No. 10 L. Haywood, SW cor. lse., P. Evans Sur. 10-in. cmtd. 2,063 ft.
Magnolia No. 11 L. Haywood, SE cor. P. Evans Sur. Drlg. 2,359 ft.
Magnolia Pet. Co. No. 12 L. Haywood, P. Evans Sur. Drlg. 1,445 ft.
Magnolia Pet. Co. No. 13 L. Haywood, P. Evans Sur. Drlg. 250 ft.
Magnolia Pet. Co. No. 4 Lewis and Wicks, Cass Co. Sch. Ld. Sur. Comp.; flwg. 12 B.P.H.; T.D. 6,090 ft.
Magnolia Pet. Co. No. 5 Lewis and Wicks, 7-in. cmtd. 6,050 ft.; T.D. 6,080 ft.
Magnolia Pet. Co. No. 7 Lewis and Wicks, Alex Archer Sur. Comp.; flwg. 648 B.P.D.; T.D. 6,021 ft.
Magnolia Pet. Co. No. 8 Lewis and Wicks, Alex Archer Sur. Drlg. 3,645 ft.
Magnolia Pet. Co. No. 1 J. B. McLeod, Cass Co. Sch. Ld. Sur., NW cor. sur. Loc.
Magnolia Pet. Co. No. 8 Meda Green, J. Davenport Sur. Comp.; flwg. 600 B.P.D.; T.D. 6,007 ft.
Magnolia Pet. Co. No. 13 Meda Green, J. Davenport Sur. Comp.; flwg. 12 B.P.H.; T.D. 6,056 ft.
R. W. Norton No. 1 Davis, H. Holbert Sur. 6-in. cmtd. 6,004 ft.; T.D. 6,022 ft.; W.O.C.
R. W. Norton No. 2 Davis, H. Holbert Sur., NE cor. Drlg. 5,900 ft.
R. W. Norton No. 3 Davis, H. Holbert Sur. T.D. 5,366 ft.; fsg.
Ohio Oil Co No. 13 R. P. Willis, S.F.I.W. Sur. No. 1,263. Drk.
Ohio Oil Co. No. 16 R. P. Willis, S.F.I.W. Sur. 1263. Drlg. 5,341 ft.
Ohio Oil Co. No. 17 R. P. Willis. S.F.I.W. Sur. No. 1263. Drlg. 3,550 ft.
Phillips Pet. Co. No. 7 Farrier, Wm. R. Myers Sur. Comp.; flwg. 376 B.P.D.; T.D. 6,070 ft.
Phillips Pet. Co. No. 8 Farrier, Wm. R. Myers Sur. Drlg. 5,904 ft.
Texas Co. No. 8 W. M. Hall, Alex Archer Sur., NW cor. lse. Comp.; flwg. 568 B.P.D.; T.D. 6,079 ft.
Texas Co. No. 8 McLeod, W. A. Elliott Sur. Drlg. 4,350 ft.
Texas Co. No. 2 N. A. Rambo, Cass Co. Sch. Ld. Sur. Drlg. 3,914 ft.
Texas Co. No. 5 N. A. Rambo, Cass Co. Sch. Ld. Sur. Drlg. 5,483 ft.
Texas Co. No. 7 N. A. Rambo, Cass Co. Sch. Ld. Sur. Drlg. 2,997 ft.
United Prod. Co. No. 1 Allday, P. Evans Sur. Drlg. 1,299 ft.
United Prod. No. 1 Belote, H. Holbert Sur. Drlg. 1,568 ft.
United Prod. No. 1 Bivens, John Collum Sur. Drlg. 1,408 ft.
United Prod. Co. No. 2 Bivens Unit, Jas. Davenport Sur. T.D. 6,021 ft.; S.D. W.O.
United Gas No. 3-A J. A. Bewley, H. Holbert Sur. Loc.
United Prod. No. 4 J. A. Bewley, H. Holbert Sur. 7-in. cmtd. 5,960 ft.; T.D. 6,000 ft.
United Prod. No. 2-A J. H. Bewley, H. Holbert Sur. Comp.; flwg. 12 B.P.H.; T.D. 5,995 ft.
United Prod. No. 6 G. W. Bibby Unit, Alex Archer Sur. T.D. 6,050 ft.
United Prod. Co. No. 1 Bostick, J. Coleman Sur. T.D. 5,684 ft.; tstg.
United Prod. No. 1 J. Q. Clements, Wm. B. Hughes Sur. 7-in. cmtd. 6,023 ft.; T.D. 6,080 ft.; W.O.C.
United Prod. Co. No. 1 Davis Unit, Cass Co. Sch. Ld. 7-in. cmtd. 5,680 ft.; T.D. 6,070 ft.; W.O.C.
United Gas No. 4 Bivens Unit, J. Davenport Sur. Drlg. 5,518 ft.
United Prod. Co. No. 1 J. W. Land, R. Potter Sur. Drlg. 6,415 ft.
United Prod. No. 1 R. O. Long, W. Robinson Sur. Drlg. 3,243 ft.
United Prod. Co. No. 1 J. D. Parker, J. Coleman Sur. 7-in. cmtd. 5,650 ft.; T.D. 5,790 ft.
United Prod. No. 1 Terry Unit, R. Potter Sur. Drlg. 5,566 ft.
United Prod. No. 4 S. B. Willis, W. Robinson Sur. Drlg. 5,455 ft.
United Prod. No. 5 S. B. Willis, W. Robinson Sur. Drlg. 5,786 ft.
Vaughn Prod. Co. No. 1 Willis, S.F.I.W. Sur. 1263. Drk.
Vaughn Prod. Co. No. 2 Willis, S.F.I.W. Sur. 1263. Comp.; flwg. 390 B.P.D.; T.D. 5,968 ft.

Harrison County

H. H. Alvord et al No. 1 M. A. Flannagan, L. Wormack Sur. T.D. 2,440 ft.; W.O.S.R.
Midfield Oil Co. No. 1 Lane & Greer, Baker Sur. T.D. 2,336 ft.; pmpg. on test.

Marion County

Arkansas-La. No. 1 W. S. Ford, Charles Grayson Sur., NE cor. Ford 204-ac. tr. T.D. 6,181 ft.; perf. and tstg.
Arkansas-La. No. 1 Laura McIntosh, Edmondson Sur. Drlg. 5,910 ft.

Bauman, Dunn & Fischer No. 1 Chatten, A. D. S. Coy Sur., SE cor. T.D. 5,355 ft.; prep. run csg.
Cemo Oil Co. No. 1 Lucas, A. Castleberry Sur., Caddo field. Drk.
Holcomb & Thomason No. 1 Lizzie Henderson, 330 ft. S and E, cor. Blk. 18, of Lizzie Henderson Subd., or 2,800 ft. S, 3,450 ft. E of NW cor. of R. Bennington Sur. T.D. 5,996 ft.; rng. ck.

Panola County

Danciger O. & R. No. 1 Tatum, A. Bissell Sur. M.I.M.
R. H. Dearing & Sons No. 1 Wooten Est., W. Mann Sur. Drk.
Matex Oil Co. No. 1 Thomas M. Alstone, 3 mi. E of Elysian field. Cg. 5,680 ft. for Pettitt sd.

Shelby County

Mulroy-Curtain et al No. 1 Hayden, D. G. Yordt Sur. T.D. 3,200 ft.; S.D.; W.O.; (cor.).
Wm. Redditt No. 1 Pickering Lbr. Co., SE cor. Stephens English Sur. S.D. 2,165 ft.; laying fuel line and prep. to D.D.
H. A. Stebbinger No. 1 Pickering Lbr. Co., on 160-ac. tr. in A. Hanson Sur. T.D. 5,041 ft.; (cor. depth); drlg. plug and prep. test shows oil and gas.

NORTH TEXAS WILDCATS

Archer County

Cargo Oil Co. No. 1 Slopansky, sec. 64, Harris Sur. Loc.
O. P. Darsey No. 1 J. T. Longley, sec. 1839, T.E.&L. Sur. Loc.
Deep Oil Co. No. 1 Wilson No. 5, sec. 75, A.T.N.C.L. Sur. Drlg. 2,350 ft.
Tom Looney No. 1 J. S. Bridwell, W. B. Aldridge Sur. A-2. Drlg. 1,300 ft.
Pet. Prod. Co. No. 1 Turbeville D, R. Carson Sur. A-88. Drlg. 2,305 ft.
J. G. Steele No. 1 Andrews, R. Rainey Sur. A-354. Drlg. 800 ft.
Wilson & Ligon No. 1 Pearston, sec. 120, Harris Sur. Drlg. 1,830 ft.

Clay County

L. T. Burns No. 1 Sanzenbacker, L. N. Sparks Sur. A-401. Loc.
Green Mt. Oil Co. No. 1 Staggs, sec. 34, A.C.S.L. Sur. Drlg. 1,230 ft.
R. N. Hamilton No. 1 Fred Wines, sec. 4, H. Dixon Sur. A-106. S.D.O. 260 ft.

Cooke County

Denver P. & R. Co. No. 1 Solomon, W. G. Hunt Sur. A-493. Loc.
Geo. L. Pace No. 1 J. A. Rohmer, Geo. Ivy Sur. A-516. Loc.
Peterson et al No. 1 J. M. Floyd, Chas. DeMorse Sur. A-305. S.D.O. 870 ft.
Sparks & Russell No. 1 C. F. Bundy, P. P. Cary Sur. A-1239. Spud. and S.D.

Denton County

Bolivar Drlg. Co. No. 1 Bentley, J. Yoakum Sur. A-1443. Drlg. 1,530ft.
Bolivar Drlg. Co. No. 1 J. P. Knox, R. Howard Sur. A-542. Gas sd. 1,950-55 ft.; C.O. and tstg.
H. Culver No. 1 Waide, J. Chisum Sur. A-278. Loc.
J. C. Foster No. 1 Jeffcoat, J. West Sur. Drlg. 2,910 ft.
A. A. Lander, Inc., No. 1 Forrester, Jean Baroux Sur. A-45. Drlg. 1,450 ft.
Mullen & Weil, Inc., No. 1 D. G. Taylor, Linthieum Sur. A-1600. Drlg. 2,300 ft.
Oil Finance No. 1 J. S. Gambill. Drlg. 2,020 ft.
Ruwaldt & Martin No. 1 Joe S. Gambill, J. B. January Sur. A-658. Drlg. 1,340 ft.

Grayson County

F. Gailbreath et al No. 1 Singletary, Chas. Quillian Sur. A-989. P.B. 3,862-75 ft.; C.O. and testing; small show heavy oil, cleaning out.
North Texas Oil Co. No. 1 A. M. Smith, R. M. Williamson Sur. A-1300. Drlg. 330 ft.
Olson et al No. 1 D. R. Uitger, P. P. Cady Sur. A-301. Drlg. 5,250 ft.
Pete Shanor No. 1 Blair, H.L. 3,548-55 ft.; show heavy oil; treating with ac... swbg.

Hardeman County

Locke & Durham No. 1 A. Schoppa, sec. 57, H.&T.C. Sur., Blk. 16. Drlg. 700 ft.

Jack County

Big "6" Oil Co. No. 1 J. S. Callis, S.P.R.R. Sur. A-575. Drlg. 500 ft.
L. T. Burns No. 1 M. N. Garrett, B.B.B.& C. Sur. A-100. Drlg. 485 ft.
Carpenter Oil Corp. No. 1 Johnson, R. Parker Sur. A-461. R.U.S.
Danciger O. & R. Co. No. 1 Kinder, B.S.& F. Sur. A-83. Drlg. 2,460 ft.
H. M. Leidecker No. 1 J. W. Padgett, E. Allbritton Sur. A-1890. R.U.C.T.
Tillman et al No. 1 Jones, J. Helmstutter Sur. No. A-1269. Drk.

Montague County

Denver P. & R. Co. No. 1 Copeland, Blk. 162, Kembro Sur. Drlg. 4,000 ft.
Montague Oil Co., Inc., No. 1 W. J. Bell, sec. 2,882, T.E.&L. Sur. Fsg. csg. 4,-000 ft.
Selby O. & G. Co. No. 1 J. M. Batts, M. B. Tatum Sur. A-740. Loc.
Ventex Investments, Ltd., No. 1 S. E. Bell, sec. 11, M.E.P.&P. Sur. Drlg. 2,120 ft.

Wichita County

Christie et al No. 1 Vanmeter, Blk. 35, K.W.V.F.L. Sur. Fsg. 2,060 ft.
Leo Oil Co. No. 1 Fonville, sec. 323, Waggoner Co. Sur. R.U. and D.
Petroleum Prod. Co. No. 73 First National Co., Blk. 29, K.W.V.F.L. Sur. 7-in. csg. cem. 3,671 ft.; R.U.S.
Target Drlg. Co. No. 1 Foster, sec. 1, H. T.&B. Sur. A-129. Drlg. 1,720 ft.

Wilbarger County

Davis Oil Corp. No. 1 Waggoner-A, sec. 36, H.&T.C. Sur., Blk. 2. O.W.D.D.; drlg. 3,180 ft.
Gibson & Jennings No. 1 Waggoner, sec. 109, H.&T.C. Cur., Blk. 14. Drlg. 1,520 ft.
F. A. Lain No. 1 J. Coffee, sec. 44, H.&T.C. Sur. O.W.D.D.; drk.
Geo. L. Pace No. 1 Waggoner, sec. 45, H. &T.C. Sur., Blk. 4. Loc.
L. Webb No. 1 Waggoner, sec. 49, H.&T. C. Sur., Blk 2. L.S.O. 2,406-28 ft.; tested water; S.D.O.

Wise County

Latex Oil Co. No. 1 C. R. Smith, J. Couch Sur. A-104. Drlg. 1,700 ft.
Texas-Canadian Dev. Co. No. 1 T. N. Maxwell, I. Epps Sur. A-267. S.D.O. 4,025 ft.

Young County

Ambrose & Meyers No. 1 Brogden, T. C. Wadley Sur. A-2309. Loc.
S. Caprito No. 1 Laquay, A. Irvin Sur. A-1779. P.B. 3,800 ft.
Collins & Fitzwater No. 1 J. G. Castleman, sec. 72, T.E.&L. Sur. Spudded.
J. E. Kadane No. 1 B. F. Manley, T.E.&L. Sur. 2128. Drk.
D. P. Kenyon No. 1 J. W. Daws, T.E.&L. Sur. 752. Spudding.
C. A. Lupton et al No. 1 Hall, B. R. Aiken Sur. A-2241. Drlg. 1,300 ft.
Pitzer & West & Lion No. 1 Mrs. F. Wray, T.E.&L. Sur. 3411. Spudded.
Pitzer & West No. 1 J. C. Nolen, T.E.&L. Sur. 606. Spudded.
T. G. Shaw Oil Corp. No. 1 J. L. McLaren, Sec. 6., B.B.&C. Sur. 9-29. R.U.C.T.
A. T. Strong No. 1 M. K. Graham, T.E.&L. Sur. 3410. Drlg. 1,450 ft.
C. V. Welch No. 1 Street, M. E. Criswell Sur. A-1772. U.R. 8¼-in. at 2,500 ft.
Yorktex Pet. Co. No. 1 W. E. Steele, I.R.R. Sur. A-156. Fishing 1,600 ft.

WEST TEXAS WILDCATS

Andrews County

Botkins & Barron No. 1 Kemp. Loc.
M. S. Forgeron et al No. 1 Lockhart & Brown, C NE¼ sec. 20, Blk. A-41, P.S.L. Sur. Loc.
G. F. Getty, Inc., No. 1 R. H. Lindley, sec. 8, Blk. A-46. T.D. 4,642 ft.; to P.B. and acidize.
Geo. F. Getty No. 1 Moxley. T.D. 4,802 ft. P.B. to 4,792 ft.; S.D.
Mannigan No. 1 Lotus Oil Co., sec. 18, Blk. A-48, P.S.L. Sur. Drlg. 3,875 ft.
R. H. Henderson No. 1 J. E. Parker, sec. 25, P.S.L. Sur. A-43. T.D. 4,555 ft.; testing.
Humble O. & R. Co. No. 1-B Means, sec. 11, Blk. A-45. Drlg. 4,900 ft.
Shell Pet. Corp. No. 1-E F. King, sec. 10, Blk. A-42, P.S.L. Sur. T.D. 4,486 ft.; averaged 108 bbls. per day for 3 days on pump; shut in.
Standard of Texas No. 1 Gray Estate, sec. 21, Blk. A-42, P.S.L. Sur. T.D. 140 ft.; W.O.C.

Bailey County

E. L. Wilson et al No. 1 Blank, Labour 4, Abner Taylor League 700. Loc.

Brewster County

F. C. Dodson No. 1 Texas American Synd., sec. 66, Blk. 10, G.H.&S.A. Sur. Tstg. csg.; T.D. 3,985 ft.

Cochran County

Bond & Harrison No. 1 Dean, Labour 1, League 85, Greer Co. School Lands. Drlg. 2,700 ft.

Coke County

H. E. Ogden et al No. 1 Rawlins, Cellar.
Plymouth Oil Co. No. 1 Mrs. Mary Hanna, sec. 252, Blk. LA, H.&T.C. Sur., 1½ mi. SW of Blackwell. R.U.S.T.

Crane County

Clark et al No. 1 Jordan, sec. 12, Blk. B-22, P. S. L. Sur. T.D. 3,750 ft.; pumped 60 bbls. in 7 hrs. after standing.
Gulf Oil Corp. No. 2 McKnight, sec. 9, Blk. B-21. T.D. 4,373 ft.; set csg.
Sinclair Prairie Oil Co. No. 1 University, sec. 13, Blk. 35. Drlg. 2,678 ft.

Crockett County

Choate & Hogan No. 1 C. B. Haun, sec. 88, Blk. 1, I.&G.N. Sur. Loc.
Superior Oil Co. of Calif. No. 1 J. S. Todd, C SE¼ sec. 55, Blk. UV, G.C.&S.F. Sur. T.D. 545 ft.; R.U.R.

Ector County

Bond & Harrison No. 1 Rumsey, sec. 35, Blk. 45, Twp. 1n, T.&P. Sur. T.D. 4,154 ft.; testing.
Sinclair Prairie Oil Co. No. 2-A Johnson, sec. 48, Blk. 43, Twp. 1s, T.&P. Sur. T.D. 4,345 ft.; P.B. 4,173 ft.; tstg.

Edwards County

Dan Auld et al No. 1 Rigsby, sec. 16, Blk. OK, G.C.&S.F. Sur., 15 mi. NE of Rock Springs. Spudded.

Fisher County

L. A. Daniels et al No. 1 J. J. Nickless. T.D. 2,907 ft.; set csg.
Forrest Dev. Co. No. 1 J. A. Scott, sec. 105, Blk. 2, H.&T.C. Sur. Drlg. 2,820 ft.
Martin & Brubaker No. 1 Brown, W. E. Richardson Sur., sec. 4, Blk. R. T.D. 2,880 ft.; U.R. csg.
Southern Oil Co. No. 1 Robinson, sec. 172, Blk. 2, H.&T.C. Sur., 2½ mi. NE of Raton. S.D. 2,940 ft.

Gaines County

A. G. Carter No. 1 A. L. Wasson et al, 2,310 ft. from N and 330 ft. from W, sec. 48, Blk. AX, P.S.L. Sur. R.U.R.
Landreth Prod. Co. No. 1 C. Cobb, sec. 20, Blk. A-21. Drlg. 4,671 ft.

Garza County

S. Caprito No. 1 Post Estate, sec. 230, Blk. 5, K. Aycock Sur. Drlg. 2,239 ft.

Glasscock County

Fleetborn Oil Co. No. 1 Black Arrow, sec. 3, Blk. 34, Twp. 3s, T.&P. Sur. T.D. 2,713 ft.; shot; tstg.

Hockley County

Texas Co. No. 1 B. Slaughter, Labour 83, League 38, Zavala Co. Sch. Lds. Drlg. 4,900 ft.

Howard County

Moore Bros. No. 1 T.&P. Land Trust, sec. 33, Blk. 30, Twp. 1s, T.&P. Sur. Drlg. 770 ft.
Shasta Oil Co. No. 1 Cora Echols, sec. 5, Blk. 15, T.&P. Sur. Drlg. 805 ft.
R. A. Westbrook et al No. 1 G. T. West, sec. 48, Blk. 33, Twp. 1n, T.&P. Sur. S.D. 1,460 ft.; blowing air and salt wtr.

Hudspeth County

Haymon Krupp Oil & Ld. Co. No. 1 Thaxton, SE¼ sec. 34, Blk. 74, Twp. 6. T.D. 3,000 ft.; U.R. 7-in. csg.

Jones County

Martin & Son No. 1 Hayden, Subd. 5, Lot 2, Martinez Sur. S.D. 2,547 ft.
J. L. Reeves No. 1 Kelly, C. Martinez Sur., 1½ mi. N of Hawley. P.B. to 2,204 ft.; S.D.
T. K. Simmons No. 1 E. A. Hicks, sec. 5, O. A. Lands Sur. Drlg. 2,110 ft.
Ungren & Frazier No. 1 J. J. Steele, sec. 11, Blk. 15, T.&P. Sur. T.D. 2,487 ft.; P.B. to 2,225 ft.

Loving County

Mason Oil Co. No. 3 Kyle, sec. 20, Blk. 55, Twp. 1, T.&P. Sur. Drlg. 1,900 ft.
Stanolind O. & G. Co. No. 1 M. Kyle, sec. 20, Blk. 55, Twp. 1, T.&P. Sur. Cellar.

Pecos County

Adams & Black No. 1 Masterson, sec. 71, Blk. 10, H.&G.N. Sur. Drlg. 285 ft.
Bahan & Rhodes No. 1-B Bonebrake, sec. 116, Blk. 8, H.&G.N. Sur. T.D. 2,290 ft.; will set csg.
Hightower Oil Corp. No. 1 Holmes, sec. 6, Blk. C-3, E.L.R.R. Sur. S.D. 2,633 ft.
Humble O. & R. Co. No. 1 E. M. Gray, sec. 94, Blk 11, G.H.&S.A. Sur.; 5,000-ft. test. Drlg. 2,276 ft.
Humble O. & R. Co. No. 1 Tippett, 3,705 ft. from S and 1,692 ft. from E of sec. 537, T.I.&M. Sur. Drlg. 212 ft.
A. Kirk et al No. 1 Mrs. B. Young, sec. 49, Blk. 10, H.&G.N. Sur. Loc.
E. R. Minshall No. 1 Banker, sec. 25, Blk. 146, T.&St.L. Sur. T.D. 3,005 ft.; P.B. to 2,974 ft.; shot; gas; stuck tools.
Pinerock Oil Co. No. 1 White & Baker, SE cor. sec. 5, Blk. 207, T.C. Sur. Drlg. 542 ft.
S. Thompson No. 1 Elsinore Cattle Co., sec. 54, Blk. D, G.C.&S.F. Sur. Drlg. 4,861 ft.
Trans-Pecos Oil Co. No. 1 Gallagher, sec. 9-51-10, T.&P. Sur. T.D. 1,272 ft.
Union Oil & Mining Co. No. 1-A Magnolia, sec. 5, Blk. 9, H.&G.N. Sur. S.D. 1,850 ft.
Young No. 1 Bailey, sec. 23, Blk. 178, T.C. R.R. Sur. Drlg. 2,105 ft.
Young No. 1 Perry. Drlg. 135 ft.

Presidio County

L. C. Brite No. 4 fee, C NW¼ sec. 113, Blk. 12, G.H.&S.A. Sur. Drlg. 606 ft.
A. H. Main No. 1 Greenlee, sec. 40. Blk. 347, 13 mi. NE of Marfa. Drlg. 660 ft.

Reagan County

Bahan & Rhodes No. 1 Kloh, sec. 37, Blk. 37, Twp. 5s, T. & P. Sur., NW cor. of county. S.D. 3,215 ft.
O. B. Greathouse No. 1 W. E. Friend, sec. 3, W. Allen Sur. Cellar.

Reeves County

Grisham & Hunter No. 1 Montgomery, sec. 1, W. R. King Sur. Drlg. 3,452 ft.
J. C. Hill et al No. 1 Ely, sec. 38, Blk. 71, P.S.L. Sur. Cellar.

Runnels County

Stevens & Glover No. 1 Fowler, 150 ft. from N and E of SW¼ sec. 150, E.T. R.R. Sur., 2 mi. NE of Ballinger. R.U.

Schleicher County

J. M. Cooper No. 2 B. Page, sec. 40, Blk. L, G.H.&S.A. Sur. M.I.T.
Mangus Oil Co. No. 1 Judkins & Spencer, C SW¼ sec. 4, W. W. Russell, grantee. Elev. 2,209 ft.; T.D. 6,527 ft.; P.B. 5,912 ft.; shot 145 qts. from 5,814-5,920 ft.; C.O.

Scurry County

Bristow & Cantrell No. 1 Tomlinson, sec. 122, Blk. 97, H.&T. Sur. Drlg. 1,406 ft.
E. L. Goos No. 1 Henderson, sec. 148, Blk. 97, H.&T.C. Sur. Drlg. 1,504 ft.

Upton County

Amerada Pet. Corp. No. 5 Lane, sec. 32, Blk. 1, M.K.&T. Sur. Drlg. 1,579 ft.

Ward County

Magnolia Pet. Co. No. 1-55 Sealy, sec. 55, Blk. F, G.M.M.B.&A. Sur. W.O.C. 2,618 ft.
L. F. White et al No. 1 Rector-Monroe, E cor. sec. 3, Blk. 1, W.&N.W. Sur. Drlg. 2,207 ft.

Winkler County

Richardson No. 1-B Walton, sec. 20, Blk. 77, P.S.L. Sur. Drlg. 2,200 ft.
J. R. Sharp No. 1 Walton, sec. 19, Blk. 77, P.S.L. Sur. T.D. 3,414 ft.; shot; est. 60 B.P.D.
York & Harper et al No. 1 Gunter & Munson, sec. 7, Blk. C, G.M.M.B&A. Sur. Drlg. 4,000 ft.

Yoakum County

Bahan et al No. 1 Shook Est., sec. 420, Blk. D, John H. Gibson Sur. Drk.
Magnolia Pet. Co. No. 1 Mrs. M. E. Taylor, sec. 201, Blk. D, John H. Gibson Sur. M.I.R.

RANGER (CENTRAL TEXAS) DISTRICT

Brown County

R. M. Ragsdale et al No. 1 J. H. Taber, 10 mi. NE Thrifty, 1,320 ft. from N line and 150 ft. from W line, sec. 87, H.T.&B. Sur., Abst. 437. Loc.

Callahan County

A. R. Forster No. 1 C. B. Snyder, NW cor. NE¼ county, sec. 139, B.B.B.&C. Sur. Drlg. 995 ft.

Coleman County

Midfield Oil Co. No. 1 T. H. Ward, sec. 274, W. Echels Sur. S.D.O. 1,500 ft.

Eastland County

J. T. Anderson No. 1 Crist, 8 mi. N of Rising Star, sec. 36, Lavaca Co. Sch. Lds. Drlg. 685 ft.
J. A. Bearman et al No. 1 Mrs. R. L. Poe, S edge Cisco, 450 ft. from S and W of sec. 79, H.&T.C. Sur., Blk. 4. Drlg. 300 ft.
Barnett Pet. Corp. No. 1 L. C. Downtain, 2 mi. SE Eastland, sec. 2, E.T.R.R. Sur., Blk. 6. Loc. for 2,500-ft. test.
F. J. Estes No. 1 Gentry, A. Popejoy Sur. Drlg. 3,100 ft.
Hoffman & Page No. 1 Dodd, 5 mi. S of Ranger, Subd. 11, William VanNorman Sur. Drlg. 1,540 ft.
States Oil Corp. No. 1 H. S. Schmick, 1 mi. NE Eastland, SE¼ sec. 1, H.&T.C. Sur., Blk. 4. Drlg. 1,410 ft.

Jones County

Fain & McGaha Oil Corp. No. 1 Lewis, 5½ mi. NE Hawley, sec. 37, T.&P. Sur., Blk. 15. Drlg. 1,100 ft.
Fain & McGaha Oil Corp. No. 1 Swenson, ½ mi. W Lueders, 220 ft. from N and W of sec. 2, A. D. Norcop Sur. Drlg. 1,750 ft.
Fain & McGaha Oil Corp. No. 1 J. H. Wheeler, 3 mi. NW Sandy Ridge pool, 3,448 ft. from N line and 2,365 ft. from E line, sec. 55, O.A.L. Sur. M.I.
R. B. Farris et al No. 1 Beasley heirs, 3 mi. S Nugent, 3,216 ft. from N line and 2,552 ft. from E line, W. T. Evans Sur. Drlg. 815 ft.
S. C. Herring No. 1 Eleanor Haynes, sec. 191, S. Andrews Sur., NE edge Sayles pool. T.D. 1,912 ft.; U.R. 8-in. csg.
Lewis Prod. Co. et al No. 2 Sayles, 240 ft. sec. 6, T.&P. Sur., Blk. 20, 1 mi. S Sayles pool. Drlg. 1,200 ft.
Lueders Dev. Co. No. 1 Underwood, 2 mi. S. Lueders, sec. 16, N. Scott, but in S. L. Underwood Sur. No. 1. L. 1,790 ft.; prep. to treat.
Peckham et al No. 1 Denton Co. Natl. Bank, NE cor. county, sec. 17, H.&T.C. Sur., Blk. 3. Drlg. 550 ft.
Petroleum Producers Co. No. 1 H. C. Harvey, 3 mi. E Nugent, 450 ft. from E line and 150 ft. from S line, NW¼ of E½, sec. 9, T.&P. Sur., Blk. 14. S.D. 600 ft.

Palo Pinto County

D. H. & C. Drlg. Corp. No. 1 Davenport, 6 mi. SE Palo Pinto, L. F. Margaret Sur. A-309. T.D. 2,000 ft.
Paul Garrett No. 1 Mabry heirs, NE cor. county, sec. 2,572, T.E.&L. Sur. S.D. 649 ft.
W. K. Gordon et al No. 2 Canty, 8 mi. W Palo Pinto, sec. 42, T.&P. Sur., Blk. 2. Drlg. 3,050 ft.
Henry Hobbs et al No. 1 Bessie Holt, 4 mi. S Graford, 330 ft. from N and W lines of W½, sec. 1,783, T.E.&L. Sur. R.U.

Shackelford County

Humble O. & R. Co. No. 1 Bowman, sec. 80, T.&P. Sur., Blk. 12, 7 mi. E SW cor. county. Drlg. 1,550 ft.
Jones, Stastney, Groover & Rose No. 1 Davis, 4 mi. S Morris-Buie pool, sec. 10, T.&P. Sur., Blk. 13. Drlg. 1,050 ft.
Koeser & Pendleton No. 1 Davis, sec. 1, T.&P. Sur., Blk. 13, 10 mi. W. Albany. Sd. 1,594-95 ft.; est. 4,000,000 ft. gas; U.R. 8-in. csg.
Ungren & Frazier No. 1 McCowan, NW cor. county, sec. 158, B.B.B.&C. Sur. L. 1,925-32 ft.; acidized; tstg.
Ungren & Frazier et al No. 1 Snyder, 3 mi. SW Sedwick, sec. 26, L.A.L. Sur. Cg. 3,504 ft.

Stephens County

C. B. Christie et al No. 1 E. S. Maury, 4 mi. W of Crystal Falls, J. Koehler Sur., Abst. 26. S.D. 3,600 ft.; M.I.M. to P.B.
W. T. Garret et al No. 1 Echols, 6 mi. SE of Ivan, W½, sec. 10, Blk. 3, S.P.R. R. Sur. Sand 3,865-73 ft.; tested 16,750.-000 ft. gas; trying to kill gas.
Mudge Oil Co. No. 1 S. H. Hill, 3 mi. SW Eliasville, sec. 1,122, T.E.&L. Sur. U.R. 8¼-in. csg. to 2,546 ft.

Tarrant County

E. E. Hoffpauir et al No. 2 W. H. Davis, 2 mi. S Arlington, H. Blackwell Sur. S.D.O. 2,140 ft.

Taylor County

Dunn & McAlister No. 1 Bowles, NE cor. county, SW¼ sec. 28, B.A.L. Sur. O.W. D.D.; sdy. L. 1,758-52 ft.; good S.O.&G.; tstg.
Golden Pet. Co. No. 1 C. B. Braune, sec. 15, League 144, Guadalupe Co. School Lands Sur. M.I.R.
Hal Hughes et al No. 1 Manahan, 5 mi. S Abilene, sec. 14, L.A.L. Sur. Drlg. 1,000 ft.

Wise County

Latex Oil Co. No. 1 Smith, 3 mi. E Bridgeport. Jas. Couch Sur., Abst. 104. Drlg. 1,761 ft.

PERSONAL

E. E. ROSAIRE, president of the Independent Exploration Company at Houston, Tex., has resigned and has opened offices in the Esperson Building where he will devote his time to experimental work in geophysics and geochemistry. Mr. Rosaire together with F. M. KANNENSTINE and a group of oil men formed the Independent Exploration Company.

MRS. JOHN G. PEW, Dallas, Tex., christened the Sun Oil Company's newest and largest tanker, "The Texas Sun," on March 24, at Chester, Pa.

MARCEL SCHLUMBERGER, president of the Schlumberger Well Surveying Corporation, will visit the Houston headquarters of his organization, as well as the different field crews, during April. Mr. Schlumberger will come from Paris, France, after an extensive trip in South America, where he has been studying the oil fields of Venezuela.

ÖSCAR HATCHER has resigned as chairman of the Ada chapter of the American Petroleum Institute and is succeeded by IRA KING, who had served two terms as secretary of the chapter. Mr. Hatcher will continue as executive vice chairman. Mr. Hatcher has joined Petroleum Geologists, Inc., and he felt that his new connection would prevent him from giving the chairmanship the time and attention it calls for.

FRANK W. REEVES, manager of the oil interests of the late W. D. DUNNING, JR., for the past four years, has been retained in that capacity.

WILLIAM REINHARDT, for six years manager of the Kettleman Hills North Dome Association in California, has resigned and entered the service of the Union Pacific Railway, which owns and will operate oil properties in the new Wilmington field in California. Mr. Reinhardt will be production manager for the railroad company, which has four wells drilling and a score of locations made in the field.

JAMES S. POSTGATE, Texon, Tex., assistant general manager of the Big Lake Oil Company, will retire on May 1 to take life easy in Santa Barbara, Calif., where he and his family will reside. Mr. Postgate has been with the Big Lake Oil Company since June 1, 1927, and previous to that had worked for the Texas Portland Cement Company, the Kansas Natural Gas Company and the Mexican Eagle Oil Company at Tampico, Mexico.

R. W. WALSH has been appointed general sales manager of Richfield Oil Corporation, which under the new organization includes the old Richfield Oil Company and Rio Grande Oil Company.

M. J. GROGAN, president, Grogan Oil Company, Shreveport, La., has returned from an eastern business trip, including New York and other points.

B. H. PEACOCK, field safety engineer for the Lone Star Gasoline Company, Ranger, Tex., has been appointed by GOVERNOR JAMES V. ALLRED of Texas to serve on the Governor's Traffic Safety Committee.

R. W. WAY, gasoline plant foreman of the Humble Oil & Refining Company at Conroe, Tex., has been transferred to Tomball as foreman in charge of the Tomball, Tex., gasoline plant. W. J. McDOUGAL succeeds Mr. Way at Conroe.

DR. RUSSELL S. KNAPPEN, of Tulsa, assistant to the vice president of the Gulf Oil Corporation, spoke Thursday night at a dinner at the Hotel Astor in New York honoring PROF. CHARLES P. BERKEY, head of the engineering department at Columbia University, on his seventieth birthday.

LOUIS POLLARD CLARKE was one of a dozen Phillips Petroleum Company employes who received 15-year service badges on March 31. The others were JOHN KNIGHT GIBSON, GEORGE E. GREINER, H. T. SEARS, MILTON E. WALLS, JOHN PARSONS, JOHN O. ALLEN, ROSS E. BERTENSHAW, O. P. MILLER, GEORGE MILLER and HARRY V. NEHER.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

All the 28 drilling wells in Kansas are in Allen, Neosho, Wilson, Chautauqua and Montgomery counties.

Crude oil prices east of California range from 40 cents per barrel for Caddo, La., heavy crude to $1.56 per barrel for Pennsylvania grade crude. Oklahoma and Kansas crude brings 60 cents per barrel.

In 1906 the average depth of Oklahoma and Kansas oil wells was 1,099 feet. It has increased to 1,347 feet in the first three months of 1912. Kansas wells drilled this year average 950 feet in depth. The deepest wells in Oklahoma are in Pawnee County averaging 2,000 feet.

20 YEARS AGO

The will of the late Theodore N. Barnsdall, after several special bequests are made, bequeaths the residue of his estate to his two daughters, Mrs. Frances Law and Miss Aline Barnsdall. Mrs. Law is the wife of Robert Law, Jr., who is named one of the executors.

Art L. Walker heads the oil and gas bureau of the Oklahoma Corporation Commission, having recently resigned as secretary of Governor Williams.

A Sapulpa, Okla., policeman emptied his gun at a fleeing nitroglycerine wagon and while bullets hit the wagon nothing serious resulted.

Benjamin S. Tupper, 85, pioneer oil man, and famous scout in the early Pennsylvania fields, dies in Plainfield, N. J.

10 YEARS AGO

Half the oil being produced in the United States comes from 6,174 wells. The other half comes from 308,075 wells. Current production is 2,462,648 bbls.

A total of 452 wells are drilling in the Greater Seminole field, in Seminole and Pottawatomie counties, Oklahoma.

M. E. Lombardi is elected a member of the board of directors of Standard Oil Co. of California. He succeeds F. H. Hillman, who retired after 48 years of service.

S. A. YARNELL, Wichita, Kans., oil producer and one of the discoverers of the Bloomer pool, Barton County, Kansas, was a recent business visitor in Tulsa.

ARNOLD C. DAHL, of Shell Petroleum Corporation, has been transferred from Greenwich, Kans., to Pampa, Tex. He is a member of the engineering staff.

CARY P. BUTCHER, district geologist for Tide Water Associated Oil Company, Midland, Tex., has been elected district representative of the American Association of Petroleum Geologists for a two-year term.

HARVEY BLAIR and M. B. ARMER, Wichita, Kans., oil producers, who have been vacationing in Miami, Fla., were reported planning a trip to Hawaii before returning to their homes by way of the West Coast.

HERBERT GREENFIELD, president of the Alberta Oil and Gas Association, and ROBERT WILKINSON, oil operator, of Calgary, Alberta, attended the official opening of the new Toronto Stock Exchange at Toronto, Ontario.

R. C. THOMPSON, engineer for Stanolind Oil & Gas Company in Midland, Tex., for the past three years, has been made assistant to E. A. WAHLSTROM, head of the engineering committee formed by operators in the Goldsmith field, Ector County.

E. V. WHITWELL became head of the geological division, Carter Oil Company, last Saturday, replacing D. C. NUFER, who resigned to enter private business. Mr. Whitwell is a former Carter employe who more recently has been head of the exploration department of the Standard Oil Company of Louisiana.

PARAGRAPHS

E. E. FLEMING and A. J. KIMBALL, of Tulsa, have resigned their positions with the Shell Petroleum Corporation to open an oil-field supply store in Susank, Barton County, Kansas.

JOSEPH C. SMITH, president of the Smith-Weihman Oil Company, was elected president of the Oil Trades Association at its twentieth annual meeting in New York, recently. KENNETH L. PATTERSON, of the Stanco Distributors, Inc., was elected vice president; ALBERT J. SQUIER, secretary; and PHIL MEONX, vice president of Borne-Scrymser Company, treasurer.

ED. SCHULER, assistant manager of the New York office of Monsanto Chemical Company, has been made manager of the company's Pacific Coast district office at San Francisco, Calif., where he will have charge of the sale of products made by Monsanto and its affiliated companies, succeeding CHARLES L. FETZNER. Mr. Fetzner, who has been at San Francisco for the past several years, will undertake important duties at the main office in St. Louis, Mo.

H. F. WORLEY, of Tulsa, was among the passengers leaving aboard the Lafayette which sailed from New York, March 25.

W. G. SELBY, vice president of the Selby Oil & Gas Company, was a visitor at the company's Tulsa offices the past week. His home is in Sarasota, Fla.

R. S. MACMILLAN, president of Macmillan Petroleum Corporation, was reelected president at the annual meeting of stockholders held recently in Los Angeles.

H. A. GOODE, of Los Angeles, Calif., manager of production of Signal Oil Company, was recently appointed chairman of the topical committee on drilling practice of the American Petroleum Institute.

C. L. MOODY, chief geologist for Ohio Oil Company in Shreveport, La., is on vacation in California. He was elected vice president of the American Association of Petroleum Geologists at the recent convention there.

W. F. CHISHOLM, chief engineer for Northwestern Division of Minerals Section of the Louisiana Conservation Commission, with headquarters at Shreveport, La., spent last week at the home office of the commission in New Orleans.

HARRY J. BAUER, president of Southern California Edison Company, and ALEXANDER B. MacBETH, president of Southern California Gas Company, were reelected president and first vice president respectively of the Automobile Club of Southern California. W. L. VALENTINE, president of Fullerton Oil Co., was reelected to the board of directors of the Automobile Club for a three-year period.

FRED MANNING, of Denver, Colo.; W. J. QUINLIN and C. R. McSHANE, of Cut Bank, Mont., and FRED GOODSTEIN, of Casper, Wyo., were among the United States oil operators who inspected the Plains Petroleum No. 1 discovery well at Taber, Alberta.

FREDERICK G. CLAPP, consulting geologist of New York, for a considerable part of the past year has been engaged in surveys in Iran and Afghanistan. He spent three months in the Kabul district and made exploration trips in several parts of Afghanistan, notably in the great plains beyond the Hindu Kush. Part of September was spent in Teheran and a round trip to Iran was made in December. He will continue his work in both countries this year but his address remains the same, 50 Church Street, New York.

THOMAS S. KNAPP, field geologist for the Michigan conservation department in charge of the West Branch, Ogemaw County, field office of the oil and gas division since October, 1935, has resigned, effective April 1, to open an office as a consultant in West Branch. He is a graduate of Michigan State College and the University of Michigan.

WILLIAM M. (MIKE) GRIFFITY, Sinton, Tex., South Texas manager for the Plymouth Oil Company, has been appointed director of operations for the company in the entire state.

And Besides He Liked It

It was almost inevitable that Walter W. Fleming, vice president of the Ohio Oil Company, should be an oil man. His father, William Fleming, was president of the same company when it was a Standard of New Jersey subsidiary. The boy grew up with the breath of oil in his nostrils in Oil City, Pa., where young men for generations gravitated to some branch of the oil business. And besides, he liked it.

WALTER W. FLEMING

After high school young Fleming studied civil and mechanical engineering in Rensselaer Polytechnic Institute. Then he got a job in the Oil City offices of the Ohio Oil Company, and from that day he has been with the company. He was looking for experience and got it. Successively he was warehouseman, roustabout, tooldresser, farm boss, district foreman of the Robinson, Ill., area and eventually a superintendent of production in the northern Illinois field.

When the Ohio bought the Mid-Kansas Oil and Gas Company in 1916 Mr. Fleming was made vice president of Mid-Kansas. In 1929, when Mid-Kansas took over the Transcontinental Oil Company the enlarged organization was incorporated as the Marathon Oil Company. Mr. Fleming was president from 1934 till 1936, when Marathon was absorbed by Ohio. He then was made vice president in charge of Mid-Continent operations, continuing as a director of Ohio, which office he had held since 1922. With his wife and five children he resides in Tulsa.

WILLIAM J. SHERRY and ELMER ADAMS, independent operators of Tulsa, were recent business visitors in Wichita, Kans.

W. B. NICHOLSON of the Humble Oil & Refining Co. at Rising Star, Tex., has been transferred to Tomball, Tex., as assistant gasoline plant foreman.

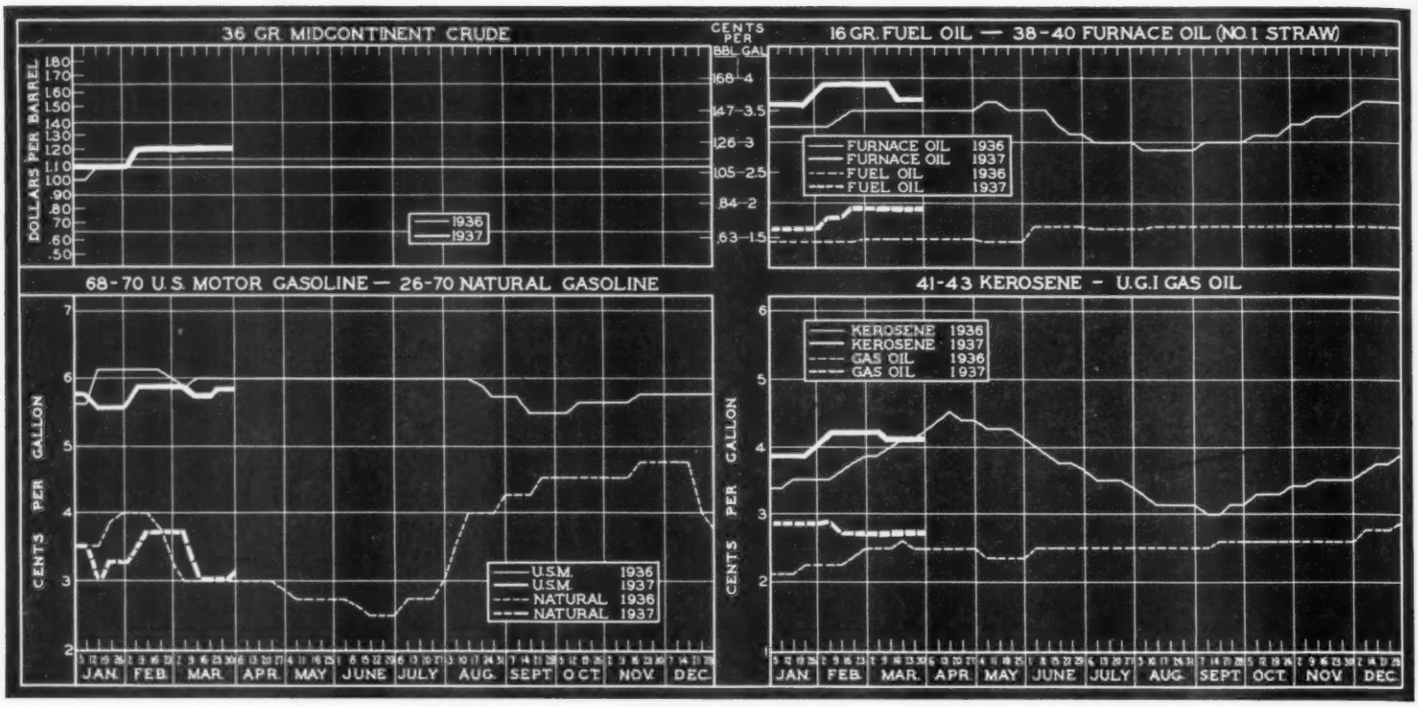
F. H. HENRY, in foreign trade service for Standard Oil Company of New Jersey, sailed for New York last week aboard the S.S. Paris, bound for Plymouth and Havre.

J. H. HARVEY, vice president and general manager of Sands Petroleum Corporation, has returned to Tulsa from Kentucky, where he inspected company properties.

J. A. LaFORTUNE, vice president of the Warren Petroleum Company, Tulsa, and MRS. LaFORTUNE will sail from New York April 1 on a trip to Paris, France, and other European points. They will return to Tulsa the first of May.

J. M. GEARY, sales executive of Union Oil Company for the past two decades, has voluntarily retired and will be succeeded as manager of all refined oil sales by W. A. NEWHOFF, who since 1933 has been in charge of sales in northern and central California.

DR. A. B. BRYAN, who has been research director in the geophysics division, Carter Oil Company, is new head of the division, succeeding STUART SHERAR, resigned. Doctor Bryan will be assisted by GEORGE E. WAGONER, an old employe of the Carter company who more recently has been in charge of the geophysics division of the Standard Oil Company of Louisiana.



Representative Mid-Continent Quotations on Crude Oil and Refined Products. Basis Oklahoma (Group 3)

Resumption of Gasoline's Advance in Group 3 Awaits Motoring Weather

By T. F. SMILEY

There may have been a little improvement in the Group 3 tankcar gasoline market this week—some men in the trade said there was—but finding it imposed eyestrain. Easter Sunday ordinarily is expected to mark the opening of the spring motoring season; but this year it brought sleet, snow squalls, slippery highways and shivering temperatures. There was pretty general feeling that the modest advance made by the motor fuels last week might be halted indefinitely unless sunny weather came along promptly.

As a matter of fact the recent well-restrained upturn in gasoline may have been based on wishful figuring as much as it was on actual demand. Large major-company purchasing from second-line independents was an important factor in pushing the market up a notch.

On Second Thought

The refiners from whom the purchases were made began to wonder on second thought if they hadn't put themselves in a vulnerable position by thus depleting their own stocks. Could they replenish their inventories in time for the summer season? And what if they should encounter labor trouble? So they turned to the small refiners and did some buying themselves. The total volume moved was of such proportions as to energize the market generally. But continuation of the upward trend required a quickening in demand at the pump to support it. That more active demand did not appear. It was chilled by the unexpected onset of wintry weather. Until genuine spot demand develops there is little likelihood of a resumption in the market's journey to higher ground.

Refined Oil Market Barometer

Expectation of an early upturn in demand was holding the gasoline market fairly steady this week, with real strength appearing in some areas. A few days of pleasant weather was expected to put the spring motoring season in motion. Bright stocks vigorous, with overseas demand taking all available supplies in east. Tractor fuels buoyant, with some refiners oversold.

MID-CONTINENT. Gasoline waiting for better weather. Tractor fuels and kerosene firm.

EAST COAST. Gasoline stronger. Bright stocks vigorous. Continued cold supporting furnace oils.

GULF COAST. Gasoline strong. Burning oils improved. Kerosene weak.

CALIFORNIA. Gasoline irregular and soft, but prices holding. Fuel oil in good demand.

PENNSYLVANIA. Straightrun gasoline and kerosene off. Lubricants continue strong.

CHICAGO. Gasoline firmer. Tractor distillates strong. Heavy fuels holding. Kerosene steady.

In North Texas, where quotations on a Group 3 basis usually are closely in line with those in Oklahoma, some regular-grade motor fuel was reported at a quarter-cent less than Oklahoma quotations late last week. An explanation offered for the discrepancy was that it was material which usually is disposed of by truck inside the state, but which now seeks buyers elsewhere because of its regular retail outlets being oversupplied. Some of it, according to report, while attaining a 68-70 octane rating, was not leaded, and could not be sold in some states because of its failure to meet required specification standards. East Texas was reported to be shipping little gasoline outside the state.

Bright stocks maintained their vigor, and another markup in Pennsylvania increased likelihood of higher prices in the Mid-Continent.

Tractor distillates were buoyant, though prices remained about where they were last week.

Kerosene, prime white and No. 1 straw distillate were in steady demand. Kerosene in particular is expected to have smooth sailing throughout the tractor fuel season, as it is the basis for most of that material. A pronounced drop in export business has left the Gulf Coast with almost no demand for kerosene output, in sharp contrast with the vigorous call for it a few weeks ago.

Indirect Bearing Only

This can have only an indirect bearing on the Oklahoma kerosene market. Louisiana and East Texas kerosene which might go to the Gulf if the export requirements had continued will have to look elsewhere for outlets. However, the volume of kerosene originating in those areas is relatively small, so the competition which it would present is causing no uneasiness.

Natural gasoline was just a shade stronger than last week, with the Oklahoma quotations up an eighth. Jobber buying was slightly better.

The cold weather which interfered with the progress of the gasoline market had just the opposite effect on the furnace distillates, which were able to hold last week's prices. Wax was firm, with no change in price.

First Improvement in Gasoline Market Noted in Northeastern Territory

By H. STANLEY NORMAN

NEW YORK, Mar. 30.—First definite signs of improvement in the gasoline market appeared in the northeastern territory last week. While prices have shown no change, greater movement from tankcar terminals and from barge piers definitely point toward improvement in the early spring trade. Less frequent reports of price shading are heard currently than during the first three weeks of March during which the gasoline trade was particularly "nervous."

Anticipation of an early turn upward in consumption was probably the one factor holding gasoline markets reasonably firm up to the time greater demand was actually realized.

The list of dealers willing to supply 65 octane gasoline at 6⅞ cents for tankcar delivery appeared dwindling last week almost to the point of obscurity. It probably will require at least another week of uninterrupted consumption to eliminate the underpriced material from the market and at least another week in addition to take up the slack on the higher basis. With promise of fair weather and temperatures inducive to travel over Easter week-end, movement of gasoline was particularly brisk from bulk plants to retail outlets. Retail prices are reasonably firm in most parts of the northeastern territory, although a price-war flared in and around Baltimore, where unbranded motor fuel was being offered at 2 to 2.5 cents per gallon under the general market. During the early part of the price cutting, only divided dealers participated with those dealing exclusively in unbranded material, but general acceptance of the competitive market was anticipated if corrective efforts were not successful immediately. At the end of the week none of the larger marketers had altered their prices, however. The Pennsylvania Grade lubricating oil market continued strong and several suppliers were reported asking a cent per gallon more for neutral oils and a half cent per gallon more for cylinder stock. However, there was still sufficient material available at the preceding week's quotations to delay marking up general prices.

Bright stock demand from foreign customers continues to absorb all the material refiners can manufacture above their current contract requirements. The situation leaves bright stock in an exceptionally strong position, particularly with domestic customers increasing their demands almost weekly. One large sale of 25 pour test bright stock was made to a major eastern company during the past week at 26 cents per gallon. Most refiners were unable to consider open market inquiries for April delivery of bright stock. Prices bid on high flash dark cylinder stocks were raised generally, but even the improvement in market conditions was insufficient to convert refiners from running to brights.

Despite the firmer tone in gasoline and the bustle of the trade in general in preparation for the heavier consuming season, temperatures along the north Atlantic remained sufficiently low to maintain most fuel oil prices at their preceding levels. Kerosene was reported somewhat depressed in certain areas, particularly in Pennsylvania, but most refiners were unwilling to shade prices materially due to approach of the plowing season. In New York harbor most tankcar loaders quoted 5¾ cents, but some material can be purchased for 5½ cents, with a smaller amount offered at 5¼ cents to the shoppers.

Another cold snap which developed last Thursday night and extended through Saturday produced a temporary stimulating effect on the light fuel oils for domestic burner consumption. However, both jobbers and bulk plant operators continue on a hand to mouth basis in the light fuel market. Temperatures have been sufficiently low, however, and stocks in domestic and larger tanks in such condition that the trade has been reasonably well maintained.

Fuel oil stocks on the Atlantic Coast are reported adequate to meet any weather contingency which may develop in the early spring, but are not so plentiful that an abrupt break is anticipated when warmer weather definitely arrives. Some boats in coastwise traffic have been converted from fuel oil service to gasoline and the operating schedule is expected to about fit the cloth to the pattern.

In New York trade territory, No. 4 fuel headed up the list of burning oils, although prices remained on a steady basis at 4¼ to 4½ cents per gallon in tankcars for immediate delivery. The No. 2 fuel oil was generally quoted at 4½ cents to the tankcar trade, although some was available at 4⅜ cents per gallon. One refiner was reported to have declined business on a firm bid of 4¼ cents per gallon for a sizable order. Bunker C fuel oil remained on firm ground at $1.20 per barrel in the north Atlantic ports, and ranging from 90 to 95 cents per barrel at Gulf Coast points. Tanker rates remain too high to allow much interest in the Gulf Coast market by coastwise shippers.

Quotation of 6½ cents per gallon for coastwise and export 65 octane gasoline seemed on firm ground at Gulf Coast points. Oil men returning from Europe report that purchasers in the United Kingdom, Holland, Belgium, France and other continental countries anticipate that they will have to pay 7 cents per gallon at the Gulf Coast before the summer is over. Some, however, are disinclined to agree with the predictions, feeling that 6¾ cents per gallon may be about the top which can be reasonably anticipated. Rumania's apparent inability to successfully meet demands of the nearby European requirements, due to physical shortcomings or exchange exigencies, has materially reduced the competition for foreign business in behalf of Gulf Coast refiners. Just how high the Gulf Coast market may be pushed before part of the Rumanian barriers are lowered is open to speculation. On the other hand, the question of demand is a side issue in the matter of normal depletion of Rumanian crude supplies. Furthermore, former surplus supplies available from Rumania are now going to meet firm demand of increased consumption.

Gas oil on the Gulf Coast was generally quoted at 3⅞ cents per gallon, off an eighth of a cent from preceding highs.

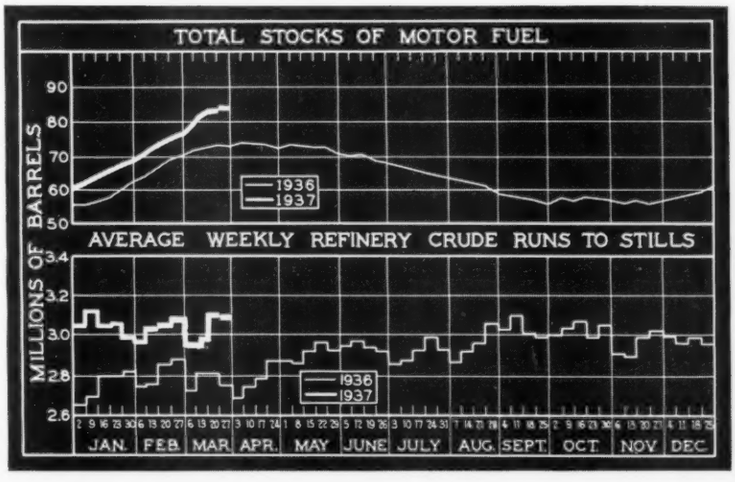
Under existing tanker rates, export dealers were finding it increasingly difficult to realize a margin on their business unless able to purchase material on the Gulf Coast at prices slightly under the market.

A. P. I. Weekly Refinery Statistics

Week Ending March 27, 1937

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline (bbls.)	Gas oil and fuel oil (bbls.)
East Coast	100.0	503,000	18,566,000	6,800,000
Applachian	88.4	102,000	2,860,000	538,000
Indiana, Illinois, Kentucky	92.1	428,000	13,660,000	4,458,000
Oklahoma, Kansas, Missouri	84.6	282,000	9,795,000	2,869,000
Inland Texas	54.3	115,000	2,235,000	1,262,000
Texas Gulf	95.5	692,000	11,176,000	6,546,000
Louisiana Gulf	96.3	131,000	1,724,000	1,423,000
North Louisiana and Arkansas	63.7	45,000	462,000	243,000
Rocky Mountains	69.7	46,000	1,940,000	725,000
California	90.9	494,000	14,953,000	68,599,000
Total reported	88.8	2,838,000	77,371,000	93,463,000
Estimated unreported	.....	222,000	6,167,000	3,128,000
*Estimated total	.....	3,060,000	83,538,000	96,591,000
*Estimated total previous week	.....	3,095,000	81,623,000	97,287,000
*March 28, 1936	.....	2,765,000	73,012,000	96,009,000

*Bureau of Mines basis, currently estimated.



RETAIL OIL MARKETS

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of March 30, 1937

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas a third grade and a premium grade are also available.

Standard Oil Co. (Indiana)

	Gasoline Tank wag.	Gasoline Dlr.	Gasoline Inc. tax	Kero. tank-wag.
Chicago, Ill.	16 0	14 0	4 0	10 1
Decatur	16 0	14 5	4 0	10 1
Joliet	16 0	14 5	4 0	10 1
Peoria	16 0	14 5	4 0	10 1
Quincy	15 8	14 3	4 0	9 9
Davenport, Ia.	16 0	14 5	4 0	10 1
Des Moines	15 8	14 3	4 0	9 9
Mason City	16 2	14 7	4 0	10 3
Sioux City	16 0	14 5	4 0	10 1
Duluth, Minn.	16 8	15 3	4 0	10 9
Mankato	16 4	14 9	4 0	10 5
Twin Cities	16 4	14 9	4 0	10 5
La Crosse, Wis.	17 4	15 9	5 0	10 5
Green Bay	17 7	16 2	5 0	10 8
Milwaukee	17 3	15 8	5 0	10 4
Detroit, Mich.	15 1	13 6	4 0	9 8
Grand Rapids	16 5	15 0	4 0	10 9
Saginaw	16 3	14 8	4 0	10 7
Evansville, Ind.	17 5	16 0	5 0	†10 6
Indianapolis	17 7	16 2	5 0	†9 6
South Bend	17 9	16 4	5 0	†9 6
Fargo, N. Dak.	17 4	15 9	4 0	11 5
Minot	18 6	17 1	4 0	12 7
Huron, S. Dak.	17 8	16 3	5 0	10 9
Kans. City, Mo.*	15 4	13 9	4 0	8 9
St. Louis*	15 7	14 2	4 0	9 8
St. Joseph*	15 4	11 9	4 0	9 5
Wichita, Kans.	14 9	13 4	4 0	8 9

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax.

(Exclusive of state general sales taxes, except Indiana and South Dakota.)

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gallons or more, 1.5 cents off; minimum delivery 25 gallons.

Stanolex Fuel Oil in Chicago

Effective Dec. 7, 1936, f.o.b. Chicago tank-wagon prices: Range oil, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.3 cents. Stanolex No. 1, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.0 cents. Stanolex furnace oil, 1-149 gallons, 7.8 cents; 150 gallons and over, 7.0 cents. Stanolex A, 1-399 gallons, 5.75 cents; 400 gallons and over, 4.75 cents. Stanolex B, 1-799 gallons, 5.75 cents; 800 gallons and over, 4.75 cents.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline Tank wag. dlr.	Gasoline Tank car con'r.	Gasoline Inc. tax	Kero. tank-wag.
Atl'tic City, N. J.	13 0	11 5	4 0	8 0
Newark	12 5	11 0	4 0	8 0
Annapolis, Md.	15 1	13 6	5 0	10 0
Baltimore	14 5	13 0	5 0	8 5
Cumberland	16 9	14 4	5 0	10 0
Wash'g'n, D. C.*	12 5	11 0	3 0	9 0
Danville, Va.	17 7	15 2	6 0	12 9
Norfolk	16 5	14 0	6 0	11 5
Petersburg	16 8	14 3	6 0	11 7
Richmond	16 8	14 3	6 0	11 7
Roanoke	18 0	15 5	6 0	12 9
Charles'n, W. Va.	16 3	13 8	5 0	12 6
Parkersburg	15 6	13 1	5 0	11 2
Wheeling	15 5	14 0	5 0	12 2
Charlotte, N. C.	18 9	16 4	7 0	13 6
Hickory	19 4	16 9	7 0	13 0
Mt. Airy	19 2	16 7	7 0	12 8
Raleigh	18 5	16 0	7 0	12 1
Salisbury	19 0	16 5	7 0	12 7
Charleston, S. C.	17 5	15 0	7 0	11 1
Columbia	18 5	16 0	7 0	12 1
Spartanburg	19 2	16 7	7 0	12 9

*Standard of N. J. has discontinued posting service-station prices at all above points except at Washington where a station price of 16 cents is in effect.

Price basis to commercial consumers, effective Nov. 2, 1936, in New Jersey, Maryland, District of Columbia and small portion of Virginia: On deliveries of 500 gallons or more by hose connections, consumer tankcar price plus .5 cent; less than 500 gallons, plus .75 cent, not taking deliveries by hose connection, plus 1 cent.

Effective Jan. 7, 1937, in greater portion of Virginia and in West Virginia differential above tankcar price on yearly purchases: up to 35,999 gallons, 2.5 cents over tankcar; 36,000 to 119,999 gallons, 2.0 cents; 120,000 to 239,999 gallons, 1.5 cents; 240,000 to 479,999 gallons, 1 cent; over 480,000 gallons .5 cent over tankcar price.

Effective Jan. 25, 1937, in North and South Carolina: Deliveries of 50 gallons or more by tank-wagon billed at price 2 cents over posted consumer tankcar price in effect at time and place of delivery. Deliveries less than 50 gallons billed at price .6 cent over posted tankcar price. Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except no discount in New Jersey.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline Tank wag.	Gasoline Net dlr.	Gasoline Inc. tax	Kero. tank-wag.
Atlanta, Ga.	22 0	19 0	7 0	*13 0
Augusta	18 5	15 5	7 0	*14 0
Macon	21 5	18 5	7 0	*14 5
Savannah	20 0	17 0	7 0	*13 0
Birm'ham, Ala.	21 0	18 0	8 0	12 0
Mobile	22 0	19 0	9 0	11 0
Montgomery	23 0	20 0	9 0	12 5
Jackson, Miss.	21 0	18 0	7 0	*13 0
Vicksburg	20 5	17 5	7 0	*13 0
Jacksonville, Fla.	20 5	17 5	8 0	11 0
Miami	20 5	17 5	8 0	12 5
Pensacola	22 0	19 0	9 0	12 0
Tampa	21 5	18 5	8 0	11 0
Lexington, Ky.	19 5	16 5	6 0	11 0
Covington	19 0	16 0	6 0	11 0
Louisville	19 5	16 5	6 0	10 5
Paducah	19 0	16 0	6 0	10 0

Price basis to tank-wagon consumers: Effective January 4, 1937, 3 cents per gallon below tank-wagon price. Kerosene prices in all states subject to 2 cents discount except in Kentucky where prices are net.

*Includes 1 cent state tax. Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, and Tampa, Fla., have a city gasoline tax of 1 cent.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Dealer	Gasoline Inc. tax	Kero. tank-wag.
Denver, Colo.	17 5	5 0	11 5
Grand Junction	20 0	5 0	15 0
Pueblo	15 0	5 0	10 5
Casper, Wyo.	18 0	5 0	11 5
Cheyenne	18 0	5 0	13 0
Butte, Mont.	19 5	6 0	15 5
Billings	21 5	6 0	15 5
Helena	21 5	6 0	15 5
Great Falls	21 5	6 0	15 5
Salt Lake, Utah	19 5	5 0	16 0
Twin Falls, Ida.	21 5	6 0	18 0
Boise	21 0	6 0	18 0
Albuquerque, N. M.	17 5	6 5	12 0

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank-wag.
Ohio points	18 0	(†)	5 0	*13 5

*Includes state tax of 1 cent.

†Following the leasing of service stations to dealers at many points the company no longer posts a statewide service station price.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank-wag.
San Francisco	17 5	18 5	4 0	11 5
Los Angeles	17 0	18 0	4 0	9 0
Fresno, Calif.	18 5	19 5	4 0	12 0
Phoenix, Ariz.	21 0	22 0	6 0	‡16 0
Reno, Nev.	20 0	21 0	5 0	13 0
Portland, Ore.	20 0	21 0	6 0	13 5
Seattle, Wash.	20 0	21 0	6 0	13 5
Spokane	23 0	24 0	6 0	16 5
Tacoma	20 0	21 0	6 0	13 5

‡Includes 5-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents; to split dealers, 2 cents. To commercial consumers: on tank-wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline Tank wag. dlr.	Gasoline Tank car con'r.	Gasoline Inc. tax	Kero. tank-wag.
Albany, N. Y.	13 5	12 0	4 0	7 75
*Met. N. Y.:				
Manh't'n, Br'nx	13 5	12 0	4 0	7 25
Staten Island	13 75	12 0	4 0	7 25
Q'ns & Brklyn	13 5	12 0	4 0	7 25
Buffalo	14 3	12 67	4 0	8 25
Rochester	14 3	12 74	4 0	8 25
Syracuse	14 3	12 7	4 0	8 75
Boston, Mass.	13 5	12 0	4 0	7 50
Portland, Me.	15 3	13 0	5 0	7 75
Manch'ter, N. H.	15 8	13 5	5 0	8 00
Burlington, Vt.	15 4	13 4	5 0	8 75

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes.

Price basis to undivided dealer: Posted dealer tank-wagon price less .5 cent. Price basis to commercial consumer: Effective Nov. 15, 1936, monthly purchases of 25,000 gallons and over, consumer tankcar prices at delivery point plus .5 cent per gallon; monthly purchases of 5,000 to 25,000 gallons, undivided dealer price at delivery point: Monthly purchases under 5,000 gallons, pay divided dealer tank-wagon price at delivery point.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline Tank wag. dlr.	Gasoline Tank car con'r.	Gasoline Inc. tax	Kero. tank-wag.
Philadelphia, Pa.	14 0	12 5	5 0	10 5
Pittsburgh	15 5	13 5	5 0	11 0
Allentown	14 5	13 25	5 0	11 0
Erie	14 5	13 0	5 0	11 0
Scranton	14 5	13 25	5 0	11 0
Altoona	15 5	13 5	5 0	11 0
Dover, Del.	14 5	....	5 0	11 0
Wilmington	13 5	....	5 0	11 0
Springf'd, Mass.	13 8	....	4 0	7 5
Worcester	14 3	....	4 0	8 0
Hartford, Conn.	13 6	....	4 0	7 5
New Haven	13 5	....	4 0	8 0
Providence, R. I.	12 5	....	3 0	7 5

Atlantic has transferred all stations to dealers except in Philadelphia and Pittsburgh where prices are 17.5 and 20.0 cents per gallon respectively.

Price basis to undivided dealers—Dealer tank-wagon less .5 cent per gallon.

Consuming accounts not under contract—when made by tank-wagon in quantities of 50 gallons or over, dealer price.

Commercial accounts under contract—annual consumption 2,500 to 100,000 gallons per year, 1 cent above posted tankcar price; over 100,000 gallons per year, .5 cent above posted tankcar price.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline Tank wag.	Gasoline Dlr.	Gasoline Inc. tax	Kero. tank-wag.
Omaha	18 4	16 9	6 0	10 4
McCook	18 3	15 0	6 0	10 0
Norfolk	18 8	17 3	6 0	10 8
North Platte	19 2	17 7	6 0	11 2
Scotts Bluff	19 9	18 4	6 0	10 9

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective Jan. 1, 1935.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline Tank wag. dlr.	Gasoline Tank car con'r.	Gasoline Inc. tax	Kero. tank-wag.
N. Orleans, La.	20 0	17 5*	10 0	†11 0
Baton Rouge	18 0	15 5	8 0	12 0
Alexandria	18 5	16 0	8 0	12 0
Lafayette	19 0	16 5	8 0	12 5
Lake Charles	19 0	16 5	8 0	12 5
Shreveport	17 5	15 0	8 0	9 5
Knoxville, Tenn.	21 0	18 5	8 0	14 0
Memphis	19 0	16 5	8 0	12 0
Chattanooga	20 5	18 0	8 0	13 5
Nashville	20 0	17 5	8 0	13 0
Bristol	19 75	18 5	8 0	14 5

*Includes 2-cent parish tax. †Includes 1-cent parish tax and 1-cent state tax.

Standard of La. has transferred all stations to dealers except in New Orleans and Baton Rouge where station prices are 23.5 and 21.5 cents per gallon, respectively.

Price basis to commercial consumers: Effective Dec. 21, 1936, deliveries of 50 gallons or more in one delivery, posted consumer tankcar price plus 2 cents per gallon; consumers taking deliveries of less than 50 gallons at one time pay posted consumer tankcar price plus 6 cents per gallon.

Louisiana kerosene prices include 1-cent state tax.

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank-wagon*
Oleum spirits	15 7
V.M.&P. naphtha	16 0
Cleaners' naphtha	15 0
Stanisol	15 0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b Chicago. Each price subject to discount of 1 cent per gallon for 150 gallon lots if covered by contract.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline Dealer	Gasoline Inc. tax	Kero. tank-wag.
Muskogee, Ok.	15 5	5 0	7.0
Oklahoma City	13 0	5 0	8 0
Tulsa	14 0	5 0	6 0
Ft. Smith, Ark.	15 0	5 0	10 0
Little Rock	17 5	7 5	9.5
Texarkana	15 0	5.0	9.0

Texas

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank-wag.
Dallas, Tex.	14 0	18 0	5 0	8 0
Fort Worth	14 0	18 0	5 0	8 0
Houston	14 5	18 5	5 0	8 0
San Antonio	14 5	18 5	5.0	8 0

Canada*

3 Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank-wag.
Hamilton, Ont.	22 0	....	6 0	17 0
Toronto, Ont.	22 0	24 5	6 0	17 0
Brandon, Man.	29 8	32 8	7 0	22 8
Winnipeg, Man.	28 2	31 2	7 0	20 7
Regina, Sask.	29 5	....	7 0	22 0
Saskatoon, Sask.	32 3	....	7 0	24 8
Edmonton, Alta.	30 5	33 5	7 0	24 2
Calgary, Alta.	28 0	31 0	7 0	21 5
Vancouver, B. C.	22 0	26 0	7 0	23 0
Montreal, Que.	19 0	....	6 0	17 5
St. John, N. B.	24 0	28 0	8 0	18 5
Halifax, N. S.	24 0	28 0	8 0	18 5

*Imperial gallon used in Canada.

Discount to dealers: Divided dealers pay 3 cents per gallon below station price; undivided dealers pay 4 cents per gallon below station price except in cities of Hamilton, Toronto and Montreal when discounts below station prices are one-half cent per gallon less and in Vancouver where discounts are 1 cent per gallon more.

Retail Price Changes

Standard Oil Co. (Nebraska) March 17 reduced dealer gasoline .3 cent and March 19 reduced tank-wagon gasoline .8 cent in McCook. March 19 reduced tank-wagon kerosene 1.1 cent in McCook. March 24 dealer, tank-wagon and service station gasoline was advanced 1 cent on account of additional 1-cent state tax.

Continental Oil Co. March 24 reduced dealer gasoline one-half cent in Pueblo.

Standard Oil Co. of Kentucky March 25 reduced tank-wagon kerosene 1 cent in Tampa.

Cut in Cut Bank

Northwest Refining Co., effective April 1, 1937, will pay $1.26 per barrel for oil it purchases in the Cut Bank, Montana, field. The posted price is $1.40 per barrel. The gravity of Cut Bank crude is 38 degrees, and $1.26 is the price of 38-gravity oil in the Salt Creek, Wyoming, field and in the Mid-Continent region. The Northwest Refining Co. has a 2,000-bbl. refinery at Cut Bank which began operating earlier this month. It takes the oil produced by its parent company, Santa Rita Oil & Gas Co., so the cut in price mostly affects royalty owners.

PRICES OF REFINED PRODUCTS

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of March 30, 1937

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 oct. and below (3d gr.)	.04⅞	.05
63-67 octane	.05¼	.05½
68-70 octane (regular)	.05⅞	.06⅛
60-62 400 grades:		
62 oct. and below (3d gr.)	.04⅞	.05
63-67 octane	.05¼	.05½
68-70 octane (regular)	.05⅞	.06⅛
64-66 375		.05⅛
68-70 360	.05¼	.05½

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.04⅞	.05
63-67 octane	.05¼	.05½
68-70 octane (regular)	.05⅞	.06
60-62 400	.04¾	.05
64-66 375	.05	.05⅛

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U. S. Motor grades:		
62 octane and below	.05¼	.05½
63-67 octane		.05¾
68-70 octane (regular)		.06¼

ARKANSAS (Ark., N. La., Miss. del.)—

U. S. Motor grades:		
62 octane and below	.05	.05¼
63-67 octane	.06	.06⅛
68-70 octane (regular)	.06¼	.06⅜

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.04⅞	.05⅛
63-67 octane	.05¼	.05½
68-70 octane (regular)	.05⅞	.06⅛
60-62 400 grades:		
62 octane and below	.04⅞	.05⅛
63-67 octane	.05¼	.05½
68-70 octane (regular)	.05⅞	.06⅛
64-66 375	.05	.05⅛
68-70 360	.05¼	.05⅜

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane		.04½
60-64.9 octane	.06¾	.07
65-70 octane	.07	.07¼
64-66 375		.05
68-70 350		.05⅜

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.07	.08
58-60 400, 65 oct. and higher	.07¾	.08¾

EAST COAST (domestic)—

U. S. Motor below 60 octane:		
*New York (Bayonne)		.06¾
Baltimore		.06¾
U. S. Motor, 60-64.9 octane:		
*New York (Bayonne)		.07
Philadelphia	.07	.07¼
Boston		.07½
Baltimore	.07	.07¼
Charleston, S. C.		.07¼
U. S. Motor, 65 and above:		
*New York (Bayonne)		.07¼
Philadelphia	.07¼	.07½
Boston		.07½
Baltimore	.07¼	.07½
Charleston, S. C.		.07½

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.05½	.05⅜
60-64.9	.05¾	.06
65 octane and higher	.06⅛	.06⅝

Naphtha

PENNSYLVANIA (inland refineries)—

50-52 450 (blending)	.04⅜	.04½
52-54 450 (blending)	.04⅜	.04½
54-56 450 (blending)	.04½	.04⅝

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.03⅛
Grade 18-55		.03¾
Low vapor pressure grade:		
*14-pound v.p. (max.)	.04⅛	.04¼
*12-pound v.p. (max.)		.04¾

*Nominal.

NORTH TEXAS—

Grade 26-70		.03
Grade 18-55	.03⅝	.03¾

CALIFORNIA—

75-85 375-390	.06¾	.07½

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

Grade 26-70	.03⅜

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 i.b.p., 110 flash, 540-550 e.p.	.04⅛	.04¼
41-43 gr., 300-350 i.b.p., 110-125 flash, 500-520 e.p.	.04¼	.04⅜
46-48 gr., 210-230 i.b.p., 480 max. e.p.	.04⅝	.04⅞

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.04⅛	.04⅜
42-44	.04¼	.04½

NORTH TEXAS—

41-43	.04⅛	.04⅜

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

41-43	.04⅜	.04½

ARKANSAS (Ark., N. La., Miss. del.)—

41-43	.04⅝	.04⅜

PENNSYLVANIA (inland refineries)—

45	.04⅞
46	.05
47	.05⅛

CHICAGO (Based on Group 3)—

41-43	.04⅛	.04¼
42-44	.04¼	.04½

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04	.05

NEW YORK (Bayonne, N. J.)—

41-43	.05½

***GULF COAST (domestic)—**

41-43	.05⅝

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

No. 1 prime white, 38-42	.03⅞	.04
No. 1 straw, 38-40	.03⅝	.03⅞
No. 2 straw, 32-36	.03¼	.03⅜
No. 2 dark, 32-36	.03¼	.03⅜
No. 3, zero to 15, 28-32	.03⅛	.03¼
No. 3, 15 and above, 28-32	.02⅝	.02⅝

NORTH TEXAS—

No. 1 prime white, 38-42	.03⅞	.04
No. 1 straw, 38-40	.03¾	.03⅞

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

No. 2, 32-36	.03⅜	.03½

ARKANSAS (Ark., N. La., Miss. del.)—

No. 2, 32-36	.03⅝	.03¾

CHICAGO (based on Group 3)—

No. 1 prime white, 38-40	.03⅞	.04⅛
No. 1 straw, 38-40	.03⅝	.03¾
No. 2 straw, 32-36	.03½	.03⅝
No. 2 dark, 32-36	.03⅜	.03½
No. 3 zero to 15, 28-32	.03⅜	.03½
No. 3, 15 and above, 28-32	.02⅝	.02¾

NEW YORK (Bayonne, N. J.)—

*No. 1		.05¾
*No. 2		.05
*No. 4		.04¾

*Barge deliveries one-eighth to one-fourth cent under above, tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal.; fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02¾	.02⅞
No. 4, low cold test, 24-28	1.10	1.15
No. 4, 15 and above, 24-28	.90	.95
No. 5, low cold test, 18-22	.87½	.92½
Below 18 fuel oil, industrial	.80	.87½

NORTH TEXAS—

U.G.I. gas oil	.02¾	.02⅞
No. 4, low cold test, 24-28	1.10	1.15
No. 5, low cold test, 18-22	.87½	.92½
Below 18 fuel oil, industrial	.80	.85

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

10-14 fuel oil, industrial	.75	.85

ARKANSAS (Ark., N. La., Miss. del.)—

10-14 fuel oil, industrial	.70	.72½

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅝	.02⅞
No. 4, low cold test, 24-28	1.10	1.15
No. 4, 15 and above, 24-28	.90	.95
No. 5, low cold test, 18-22	.87½	.92½
No. 6, low cold test, 10-16	.80	.85

PENNSYLVANIA (inland refineries)—

36-40	.04⅜	.04½

CALIFORNIA—

Los Angeles:		
30-34 gas oil, per bbl.	1.05	1.25
24 plus diesel (bunkers)	1.15	1.35
12-16 (bunkers at tidewater)	.90	1.00
10-16 (cargo lots)	.70	.95
12-17 (tankers)	.75	.95
San Joaquin Valley:		
10-18 (tankcars)	.70	.90
24 plus diesel, per bbl.	1.00	1.35
San Francisco:		
27 plus diesel		1.40
24 plus diesel (bunkers)		1.40
10-16 (bunkers)		1.00

GULF COAST—

28-30 gas oil	.03⅝	.04
28-30 diesel (bunkers)		1.65
Bunkers (bulk cargoes)		.95
Bunker C (bunkers)		1.00

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04¾
28-30 diesel (lighterage 6¼c per bbl.)		1.85
28-30 diesel (tankcars)		.04¾
*Bunker C (to ocean-going ships in N. Y. harbor)		1.20
Industrial fuel (tankcars)		.04½

*Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

Bright Stocks:		
190-200 D, 15-25		.23
150-160 D, 0-10		.20
150-160 D, 15-25		.19½
150-160 E, 15-25		.19
100-110 D, 0-10		.18
Steam refined:		
631 green (treated)		.16½
600 dark green (untreated)		.05

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 145-50 at 210, 540-350 flash):		
10 pour test	.28	.28½
15 pour test	.27	.27½
20 pour test	.26	.26½
25 pour test	.25	.25½
Steam refined:		
600		.17½
650		.19
600 Pennsylvania flash		.20
630 flash		.24
600 Warren E filtered		.20

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:	
150-3	.09
180-3	.10
180-4	.09½
200-3	.10½
200-4	.10
250-3	.11½
250-4	.11
280-3	.12½
280-4	.12
300-3½	.13
400-3½	.14
100-2½ paraffin oil	.05¾
15-20 Cold Test:	
200-3	.10
200-4	.09½
250-3	.11
250-4	.10½
280-3	.12
280-4	.11½

GULF COAST—

Pale Oils:		
200-3	.07	.07¼
300-3	.07½	.07¾
500-3½	.08½	.08¾
750-3½	.08⅝	.09¼
1,200-3½	.09½	.09¾
1,500-4	.09¾	.10
Red Oils:		
200-5-6		.07
300-5-6	.07¼	.07½
500-5-6	.08	.08½
750	.08¾	.09
1,200-5-6	.09¼	.09½

CALIFORNIA (moving to dom. market)

Pale Oils:		
100-2½-3	.07	.08
200-2½-3	.07	.08
300-2½-3	.07	.08
400-3-4	.09	.11
450-3-4	.09	.11
550-3-4	.09	.11
600-3-4	.09	.11
Red Oils:		
200-4-5	.07	.08
300-5-6	.07	.08
350-5-6	.10½	.11½
400-5-6	.10½	.11½
450-5-6	.10½	.11½
500-5-6	.10½	.11½
600-5-6½	.10½	.11½
700-6½ plus	.10½	.11½
750-6½ plus	.10½	.11½
900-6½ plus	.10½	.11½

PENNSYLVANIA—

150 vis. at 750° F. color, 400-405 flash:		
Zero pour test	.24½	.25
10 pour test	.23½	.24
15 pour test	.23	.23½
25 pour test	.22	.22½
180 vis. at 70° F., 3 color:		
25 pour test	.24½	.25
200 vis. at 70° F., 3 color:		
Zero pour test	.28	.28½
10 pour test	.27	.27½
15 pour test	.26½	.27
25 pour test	.25½	.26

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.02¾

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0265	.0270
124-126 (a.m.p.) w.c. scale	.0270	.0275

NEW YORK—

Wax in bags fully refined:		
122-125 (a.m.p.) wax		.0445
125-127 (a.m.p.) wax		.0455
128-130 (a.m.p.) wax		.0480
130-132 (a.m.p.) wax		.0505
133-135 (a.m.p.) wax		.0535
135-137 (a.m.p.) wax		.0560
124-126 (a.m.p.) w.s.	.0250	.0255
124-126 (a.m.p.) y.s.	.0260	.0265
Petrolatum in barrels, carload lots:		
Dark green		.01⅞
Amber	.02⅞	.03
Extra amber	.03	.03¼
Lily white	.06⅝	.06¾
Snow white	.07¾	.07⅞
Cream	.05⅝	.05¾

Export Prices

GASOLINE

GULF COAST—

U. S. Motor		.05¾
60-62 400		.05⅝
61-63 390	.05⅞	.06
64-66 375	.06⅛	.06¼

LOS ANGELES—

U. S. Motor grades:		
53-55 octane		.04¾
55-65 octane	.04¾	.05
65-67 octane		.05
67-69 octane		.05¼
Above 69 octane	.05½	.06

KEROSENE

GULF COAST—

41-43 prime white		.05
41-43 water white	.05¼	.05⅜
44 water white		.05¼

LOS ANGELES—

41-43 water white	.04½	.05

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s. in bbls.)—

Cylinder Stocks:	
600 Warren E	.26½
600 S.R. unfiltered	.24
630 S.R. unfiltered	.25½
600 flash, S.R.	.26½
630 flash, S.R.	.30
Bright Stocks:	
8 color	.32
6½ plus color in dilution	.31½

NEUTRAL OIL

200-3 color	.31½
150-3 color	.27½

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.		.04125
125-127 a.m.p.		.0425
128-130 a.m.p.		.0450
133-135 a.m.p.		.0525
135-137 a.m.p.		.0550
Crude scale:		
124-126 w.s.	.0260	.0270
124-126 y.s.	.0245	.0250

CRUDE OIL PRICES

Oklahoma, Kansas, North Central and East Central Texas

(January 28, 1937)

East Texas*	$1 27
Van, Tex.†	1 10
Camp Hill, Tex.	1 27
Cass County, Tex.‡	1 25
Talco	73
Altus and Tipton, Okla.§	1 20
Other fields (see gravity table).	

*All companies. †Humble Oil & Refining Co.; Pure Oil Co. ‡Texas Co. §Gulf Oil Co. Talco by Humble Oil & Refining Co.

West Texas

See gravity table.	
Pecos County*	.91
Pecos shallow†	.81

*Shell Petroleum Co., Gulf Pipe Line Co., and Humble Oil & Refining Co. †Shell Petroleum Corp.

Gulf Coast

(January 28, 1937)

Choctaw and Darrow, La. See note below	
Clay Creek, Tex.	$1 00
Garden Island, La.	1 37
Cleveland, Tex.	1 27
Hardin, Tex.	1 15
Tomball, Tex.	1 30
Lafitte, La.	1 24
Livingston, Tex.	1 27
Satsuma	1 20
Heyser, light (Nov. 1, 1936)	1 15
Heyser, heavy (Nov. 1, 1936)	90
Placedo (Nov. 1, 1936)	90
Welsh, La.	98
Tepetate (La.) (Jan. 4, 1937)	1 12

Greta, Refugio, O'Connor, McFadden, Saxet, Segno, Taft, Tomoconnor and Plymouth take same gravity prices as Gulf Coast, Duval, Jim Hogg, Webb and Zapata counties, Texas, and Heyser and Placedo fields take Mirando gravity prices. Jennings, La., 5 cents lower than Gulf Coast prices on each degree. Segno, Texas, takes Gulf Refining Co.'s Gulf Coast prices. Choctaw and Darrow, Louisiana, posted for first time by Standard Oil Co. of Louisiana, start below 21 degrees at 90 cents, with 3-cent differential up to 25 gravity, then 2-cent differential up to 40 and above, $1.36.

Rocky Mountain States

(Effective January 28, 1937)

Iles, Colo., light*	$1 18
Iles, Colo., heavy*	1 12
Greybull, Wyo.*	1 30
Torchlight, Wyo.*	1 30
Grass Creek, Wyo., light.*†	1 30
Grass Creek, Wyo., heavy (Nov. 4, 1936)*†	.62
Hamilton Dome, Wyo. (Nov. 4, 1936)*	.57
Elk Basin, Wyo., light*†	1 30
Frannie, Wyo., heavy*	.62
Frannie, Wyo., light	.82
Hogback, N. Mex.*	1 33
Pondera, Mont. (Jan. 26, 1936)*	1 05
Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.†	1 23
Rock Creek, Wyo.†	1 20½
Lea County, N. M. (see West Texas gravity table).	
Artesia, N. Mex.	.90
Maljamar, N. Mex.	.90
Canon City and Florence, Colo.	1 10
Florence, Colo.	.98
Lance Creek, Wyo.	.97
Sunburst, Mont. (June 5, 1936)	1 20
Cat Creek, Mont.	1 40
Cut Bank, Mont.	1 35

*Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co. Cut Bank by Toronto Pipe Line Co.

Middle Western States

OHIO OIL CO.
(Effective January 28, 1937)

Lima	1 25
Illinois	1 35
Princeton, Ind.	1 35
Midland, Mich.	1 42
West Branch, Mich.	1 26
Buckeye (March 16, 1937)	1 39½
Arenac, Mich.	1 26
Muskegon, Mich.	1 00
Eastern Kentucky:	
Big Sandy River	1 42
Kentucky River	1 50
Western Kentucky	1 40

Midland, Mich., price posted by Simrall Corp. and Pure Oil Co. includes Greendale, Porter, Beaverton, Crystal and equal grades. West Branch and Arenac by Simrall Corp., effective January 29. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. Buckeye posted by Simrall Corp. and Pure Oil Co.

Southwest Texas

(January 28, 1937)

Pettus	1 37
Salt Flat, Darst Creek, Hilbig, Carroll Clark, Zoboroski	1 09
Luling	1 00
Lytton Springs	1 12

Saxet and Taft take same gravity table as Gulf Coast.

North Louisiana and Arkansas

Smackover, all grades	$ .90
Tullos and Urania	1 02
El Dorado East field	.90
Union County, Ark.	.90
Ouachita County, Ark.	.90

Eastern States

TIDE WATER PIPE LINE CO.
(Effective Feb. 24, 1937)

Bradford, Pa.	$2 67
Allegany, N. Y.	2 67

SOUTH PENN OIL CO.
(Effective Feb. 24, 1937)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	2 67
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2 42
Pennsylvania Grade Oil in Eureka Pipe Line lines	2 37
Pennsylvania Grade Oil in Buckeye Pipe Line lines	2 22
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Sept. 18, 1936)	1 32

PENNZOIL CO.
(Effective Feb. 24, 1937)

Pennsylvania Grade Oil in National Transit Lines:	
Group A	2 67
Includes Cochran, Franklin, Hamilton and Doolittle districts.	
Group B	2 66
Includes Tidioute district.	
Group C	2 65
Includes Turkey and Tidioute districts.	
Group D	2 64
Includes Bear Creek and Porkey districts.	
Group E	2 61
Includes Eideneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts.	

Price depends on lengths of pipe line haul to plant at Oil City.

PURE OIL CO.
(Effective Feb. 24, 1937)

Cabin Creek, W. Va.	2 37
Bradford Hollow, W. Va.	2 37
Kelly Creek, W. Va.	2 37

Canada

Ontario (Sept. 9, 1933)*	
Petrolia	$2 10
Oil Springs	2 17
Turner Valley, Alberta province (Dec. 16, 1936):†	
Clear naphtha	$2 60
Discolored naphtha, 65 gravity and higher	2 36
Discolored naphtha and crude oil, 40-40.9 gravity	1 55
Increasing 3 cents for each degree of gravity with top price for 64-64.9 gravity	2 27

These prices delivered field tankage.
*Imperial Oil, Ltd.
†Imperial Oil, Ltd., and Regal Oil & Refining Co. On crude oil alone British American Oil Co. posted above prices on December 9, 1936.

Mexico

Panuco*	$1 24

*In U. S. currency, f.o.b. ship, based on February spot market transactions.

Crude Prices by Gravities

	1 Oklahoma-Kansas	2 Oklahoma-Kansas	3 North and Central Texas	4 East Central Texas (Mexia district)	5 North Louisiana-Arkansas	6 Gray County, Texas	7 Hutchinson-Carson counties, Texas	8 Rodessa, Louisiana-Texas and Panola County, Texas	9 Conroe, Tomball, Raccoon Bend, Satsuma, Texas	10 Gulf Coast	11 Gulf Coast	12 West Texas except Pecos County; Lea County, N. Mex.	13 Mirando district, Texas	14 Marion County, Texas	15 Government Wells, Texas	16 Anahuac, Texas	17 White Castle, Louisiana	18 Iowa, Louisiana	19 Cayuga, Texas
Bel. 18										$ 90									
18-18.9										.92									
19-19.9										.94						$ 92	$ 94	$ 84	
20-20.9										.96	$ 95		$ 90		$ 90	.94	.96	.86	
21-21.9										.98	.98		.93		.93	.96	.98	.88	
22-22.9										1 01	1 01		.96		.96	.98	1.01	.91	
23-23.9										1 04	1 04		.99		.99	1 00	1 04	.94	
24-24.9										1 07	1 07		1 02		1 02	1 02	1.07	.97	
Bel. 25		$ 98			$ 90			$ 93						$ 90					$ 88
25-25.9		1 00			.92			.95		1 10	1 10	$ 78	1 05	.92		1 04	1 10	.99	.90
26-26.9		1 02			.94			.97		1 13	1 13	.80	1 08	.94		1 06	1 13	1 03	.92
27-27.9		1 04			.96			.99		1 15	1 15	.82	1 10	.96		1 08	1 15	1 05	.94
28-28.9		1 06			.98			1 01		1 17	1 17	.84	1 12	.98		1 10	1 17	1 07	.96
Bel. 29	$1 06		$ 96	$1 03					$1 20										
29-29.9	1 08	1 08	.98	1 05	1 00			1 03	1 22	1 19	1 19	.86	1 14	1 00		1 12	1 19	1 09	.98
30-30.9	1 10	1 10	1 00	1 07	1 02			1 05	1 24	1 21	1 21	.88	1 16	1 02		1 14	1 21	1 11	1 00
31-31.9	1 12	1 12	1 02	1 09	1 04			1 07	1 26	1 23	1 23	.90	1 18	1 04		1 16	1 23	1 13	1 02
32-32.9	1 14	1 14	1 04	1 11	1 06			1 09	1 28	1 25	1 25	.92	1 20	1 06		1 18	1 25	1 15	1 04
33-33.9	1 16	1 16	1 06	1 13	1 08			1 11	1 30	1 27	1 27	.94	1 22	1 08		1 20	1 27	1 17	1 06
34-34.9	1 18	1 18	1 08	1 15	1 10			1 13	1 32	1 29	1 29	.96	1 24	1 10		1 22	1 29	1 19	1 08
Bel. 35						$ 96	$ 91												
35-35.9	1 20	1 20	1 10	1 17	1 12	.98	.93	1 15	1 34	....	1 31	.98	1 26	1 12	....	1 24	....	1 10	....
36-36.9	1 22	1 22	1 12	1 19	1 13	1 00	.95	1 17	1 36	....	1 33	1 00	1 28	1 14	....	1 26	....	....	....
37-37.9	1 24	1 24	1 14	1 21	1 16	1 02	.97	1 19	1 38	....	1 35	1 02	1 30	1 16	....	1 28	....	....	....
38-38.9	1 26	1 26	1 16	1 23	1 18	1 04	.99	1 21	1 40	....	1 37	1 04	1 32	1 18	....	1 30	....	....	....
39-39.9	1 28	1 28	1 18	1 25	1 20	1 06	1 01	1 23	1 42	....	1 39	1 06	1 34	1 20	....	1 32	....	....	....
40,over	1 30	1 30	1 20	1 27	1 22	1 08	1 03	1 25	1 44	....	1 41	1 08	1 36	1 22	....	1 34	....	....	....

Column 1—Companies posting are Barnsdall, Bell, Champlin, Continental, Cushing, Derby, Dickey, Eason, El Dorado, Empire, Falcon, Globe, Gulf, Johnson, Kanotex, National, Phillips, White Eagle, Stanolind, Sunray, Texas, Sun, Vickers and Wilcox.
Column 2—Anderson & Prichard, Carter, Cosco, Deep Rock, Magnolia, Mid-Continent, Pure, Rock Island, Shell, Sinclair, Skelly and Tide Water.
Column 3—All purchasers.
Column 4—Humble Oil & Refining Co. and Sinclair Crude Oil Purchasing Co.
Columns, 5, 6, 7 and 8—All purchasers.
Column 9—Humble Oil & Refining Co. and Sun Oil Co. Tide Water Oil Co.'s schedule starts at 35 degrees, $1.34 with 2-cent spread up to 40 and over at $1.44. (Raccoon Bend prices are for deep sand oil.)
Column 10—The Texas Co. (Gulf Refining Co. pays same prices up to and including 34 gravity, but continues its 2-cent spread up to 40 and over at $1.41.)
Column 11—Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Sun Oil Co.
Column 12—All purchasers.
Column 13—Humble Oil & Refining Co.
Column 14—Magnolia Petroleum Co.
Column 15—Sun Oil Co.
Column 16—Gulf Refining Co.
Columns 17 and 18—Shell Petroleum Corp.
Column 19—Tide Water Oil Co.

Rocky Mountain Runs

Production estimates for week ending March 27, 1937:

	Bbls.
WYOMING	
Salt Creek	16,080
Big Muddy	1,420
Byron	1,830
Dallas Derby	420
Elk Basin	300
Frannie	2,100
Garland	400
Grass Creek	1,240
Hamilton dome	750
Hidden dome	400
LaBarge	1,020
Lance Creek	12,450
Lost Soldier	1,100
Medicine Bow	2,500
Oregon Basin	2,600
Osage	690
Quealy dome	700
Rock River	3,000
Miscellaneous	860
Total Wyoming	49,860
MONTANA	
Buckley Border	200
Cat Creek	560
Cut Bank	9,850
Dry Creek	60
Kevin-Sunburst	4,050
Lake Basin	30
Pondera	1,140
Total Montana	15,890
COLORADO	
Florence	180
Fort Collins and Wellington	270
Iles dome	3,570
Moffat	420
Orchard	20
Rangely	70
Tow Creek	130
Total Colorado	4,660
NEW MEXICO	
Cooper	7,270
Eaves	1,080
Eunice	30,590
Hardy	910
Hobbs	21,620
Jal	1,540
Langlie	1,210
Lynch	900
Lynn	180
Mattix	950
Monument	28,030
North Lynch	50
Penrose	1,670
Rhoades	70
Skelly	1,100
South Eunice	1,060
Vacuum	90
Artesia	3,350
Getty	500
Hogback	210
Rattlesnake	810
Table Mesa	90
Total New Mexico	103,280
Total Rocky Mountain region	173,690

Magnetic Storm

Tucson, Ariz., observatory of the U. S. Coast and Geodetic Survey report a moderate magnetic storm started at 3 p.m. (C.S.T.) March 26 and ended on March 28 at 4 a.m. (C.S.T.). Telegram follows:

"Moderate storm began twenty-sixth. Fifteen. Ended twenty-eight. Four. Central Time."

MARKET RECORD, ACTIVE OIL STOCKS

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1937 High	1937 Low	Week ended Mar. 27 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1936	1936 High	1936 Low	1935 High	1935 Low
114⅞	101	1,500	107	104¾	106	Amerada Corp.	788,675	N.P.	50cQ	1-30-37	$2.00	125½	75	80	48½
37	30⅛	9,100	33⅞	32	33¾	Atlantic Refining	2,664,904	$25	25cQ	3-15-37	1.25	35⅛	26⅝	28	20½
43⅜	35⅞	10,900	39⅞	37⅜	38⅝	Barber Co.	387,149	$10	50c	12-10-36	.50	38½	21	22½	11¾
35¼	26⅛	16,900	32	29½	31¾	Barnsdall Oil Co.	2,131,090	$5	25cQ	5-1-37	.80	28¼	14⅛	14¾	5⅞
20⅞	15⅞	34,400	16¾	15⅞	16	Columbia Gas & Elec.	11,610,036	N.P.	20c	11-16-36	.40	23⅜	14	15¾	3⅜
17¾	15⅝	41,900	16¾	15⅞	16¾	Consolidated Oil Corp.	13,983,287	N.P.	20cQ	5-15-37	.80	17¼	11½	12¼	6½
45½	40¼	11,100	43¼	40½	42⅞	Continental Oil of Delaware	4,682,671	$5	25cQ	3-29-37	1.50	44⅞	28⅛	35	15⅛
17⅝	12½	13,000	15	13¼	15	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	13⅞	6⅜	7	1½
35⅝	29¼	8,400	32⅝	31¼	32⅝	Mid-Continent Petroleum	1,843,872	$10	75cSA	12-1-36	1.15	30⅞	17¼	20½	9½
33⅜	26⅞	9,700	33⅜	28½	33	Mission Corporation	1,399,345	N.P.	....	.....	.45	29⅞	16¾	17¾	10⅜
89½	62	3,900	87	79	87	National Supply of Delaware	382,591	$25	....	5-15-31	....	75½	19⅞	20⅞	9
22½	17⅛	43,900	21⅜	19⅛	21⅜	Ohio Oil Co.	6,563,377	N.P.	35cSA	12-15-36	.60	18	12⅛	14¼	9¼
29	22¼	2,500	27½	26	27½	Pacific Western Oil	1,000,000	N.P.	65c	12-18-36	.65	23½	11¾	14	6¾
4½	2¾	3,300	3⅝	3	3½	Panhandle P. & R.	198,770	N.P.	....	.....	....	4¼	1⅜	1⅞	½
58½	49½	17,600	55⅛	52⅝	55⅛	Phillips Petroleum	4,152,836	N.P.	50cQ	3-1-37	2.50	52⅜	38⅛	40	13¾
27⅝	24¼	9,400	26⅛	24¼	26⅛	Plymouth Oil Co.	1,050,000	$5	35cQ†	3-31-37	.90	27¾	11⅞	13	6½
24⅜	19½	35,600	21¼	19½	20⅝	Pure Oil Co.	3,038,370	N.P.	....	9-1-30	....	24⅞	16	17	5⅞
49½	40¼	16,400	49½	46½	48	Seaboard Oil of Delaware	1,244,283	N.P.	25cQ	3-15-37	1.00	44	30½	36⅞	20¾
34¾	26⅞	10,300	31½	27⅞	30⅞	Shell Union Oil	13,070,625	N.P.	25c	12-15-36	.25	28¼	14¾	16½	5½
105⅜	102	900	103¼	102	103	Shell Union Oil 5½% pfd.	400,000	$100	26⅛c	12-15-36	28.87½	127½	102	111	63⅛
4⅛	3½	1,400	4	3⅞	4	Simms Petroleum	461,698	$10	50c liq.	1-9-37	2.25 liq.	6¾	3½	18¾	4¾
53⅞	42	8,900	53⅞	48½	53½	Skelly Oil	1,008,514	$15	....	12-15-30	....	47⅜	19½	20½	6½
19½	16¼	61,100	19	17¾	19	Socony-Vacuum	31,151,075	$15	25cSA	3-15-37	.70	17½	12½	15⅝	10⅝
50	43¼	15,500	46⅝	44¼	46½	Standard Oil of California	13,014,754	N.P.	30cQ†	3-15-37	1.20	47⅝	35	41⅛	27¾
50	44⅜	13,000	46½	44½	45½	Standard Oil (Indiana)	15,215,677	$25	40cQ†	3-15-37	2.40	48½	32¾	33⅜	23
32	31	400	31½	31⅜	31½	Standard Oil of Kansas	200,000	$10	$1	12-26-36	1.00	31	25	32	20
76	67¾	28,600	71	68⅜	71	Standard Oil of New Jersey	25,856,081	$25	$1.25SA†	12-15-36	2.00	70⅜	51⅛	52⅜	35¾
77½	68	500	69¾	68	69¾	Sun Oil	1,733,013	N.P.	25cQ	3-15-37	$1 & 6% Stk.	91	70	77	60½
60	50⅜	64,700	59¾	55	59¾	Texas Corp.	9,340,069	$25	50cQ	4-1-37	1.50	55¼	28⅞	30¼	16½
9⅝	7⅞	15,500	9	8¼	8⅝	Texas Gulf Producing Co.	888,113	N.P.	5c	12-15-36	.05	8⅞	4⅜	4¾	2½
16⅝	13⅛	9,500	15¼	14⅛	15⅛	Texas Pacific Coal & Oil	880,703	$10	10c	3-1-37	.25	15¼	7½	9¼	3¼
21⅝	19¼	12,000	20	19¼	19½	Tide Water Associated	5,642,342	N.P.	15cQ	3-1-37	.70	21¾	14¾	15⅞	7⅝
108	105⅛	1,800	106¾	106¾	106¾	Tide Water Associated pfd.	626,221	$100	$1.50Q	1-2-37	6.00	106½	100⅝	104½	84
28¼	24⅛	13,600	25⅝	24⅛	25	Union Oil of California	4,386,070	$25	25cQ	11-10-36	1.00	28½	20¾	24	14¾
31½	26⅝	1,700	29	27½	29	Union Tank Car Co.	1,200,000	N.P.	40cQ	3-1-37	1.20	31⅝	22⅝	26½	20⅞
6¼	4½	3,400	5½	5	5	Wilcox Oil & Gas	424,839	$5	....	5-10-28	....	5¼	2¾	3⅛	1

*Ex-dividend. †Includes extras.

New York Curb Exchange

1937 High	1937 Low	Week ended Mar. 27 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1936	1936 High	1936 Low	1935 High	1935 Low
21⅜	16	1,900	17¾	16	17¾	Bridgeport Machine Co.	260,000	N.P.	$1	12-21-36	$1.00	21	13¼	14⅛	3¾
51½	46	350	49	48¼	49	Buckeye Pipe Line Co.	200,000	$50	$1Q	3-15-37	3.25	50	39¾	42½	30½
2¾	2⅛	2,800	2⅜	2¼	2⅜	Carib Syndicate	799,020	25c	....	.....	....	4⅞	1⅞	4¼	1⅝
115½	110¼	50	112	112	112	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	3-29-37	7.00	124¾	105	157	115
5⅜	4	34,000	4⅜	4⅛	4⅛	Cities Service	37,804,394	N.P.	....	6-1-32	....	7⅜	3	3¼	¾
4⅝	2½	4,300	2⅝	2½	2½	Cosden Oil	399,687	$1	....	.....	....	4½	1½	1½	¼
38	30⅛	5,600	31⅞	30⅛	31⅞	Creole Petroleum	6,974,356	$5	25cSA	12-15-36	.50	39	19⅞	23¾	10
18⅝	15¾	400	16	15¾	15⅞	Darby Petroleum	351,390	$5	25cSA	1-15-37	.50	18⅛	9	8⅞	4
7⅞	5¼	3,400	6⅞	6⅛	6⅜	Derby Oil & Refining	263,162	N.P.	....	.....	....	6¾	1⅞	2	¾
47¼	46½	No sales	..	..	..	Eureka Pipe Line	50,000	$50	$1Q	11-2-36	4.00	47½	38½	38	33¼
63¼	53¾	6,500	56¾	53¾	56⅝	Gulf Oil Corp.	9,076,202	$25	25cQ	4-1-37	1.50, 100% Stk.	59	36	74¾	50¼
87	77½	3,500	83	79	82	Humble Oil & Refining	8,923,935	N.P.	37½cQ	4-1-37	1.50	80	57	64	44
24¼	21	4,000	23	22¼	22⅜	Imperial Oil of Canada	26,919,871	N.P.	62½cSA†‡	12-1-36	1.25	24½	19¾	22½	15⅜
15	7¾	2,200	14¼	12¾	14¼	Indiana Pipe Line	300,000	$10	30cSA	5-15-37	.80	9¾	5½	6⅛	3⅝
39½	33¾	4,300	36⅜	35¾	35¾	International Petroleum	14,247,088	N.P.	$1.25†‡	12-1-36	2.50	39⅝	32⅝	39¾	28
15¼	12⅛	4,100	12½	12⅛	12¼	Louisiana Land & Exp.	3,000,000	N.P.	10cQ	3-15-37	.50	15⅜	9⅞	11⅜	4⅜
24⅝	16⅛	28,900	24⅝	18¾	22⅝	Lion Oil Refining	270,000	N.P.	25cQ	12-26-36	.75	17¾	7⅜	8⅛	3½
14¼	11	2,400	11⅜	11	11¼	Lone Star Gas	5,382,723	N.P.	20c	4-20-37	.60	14¼	9⅞	10⅞	4½
7⅞	6	2,000	7	6⅝	7	Mountain Producers	1,682,182	$10	30cSA	12-21-36	.60	8⅜	5	5¾	4⅛
19½	16½	1,200	17	16½	17	National Fuel Gas	3,810,183	N.P.	25cQ	1-15-37	1.00	23	17⅜	20	11¾
11⅞	10	900	11	10¾	10⅞	National Transit	509,000	$12.50	35cSA	12-15-36	.75	15¾	9¼	10⅝	6¾
6	4¾	200	5⅛	5⅛	5⅛	New Bradford Oil	1,445,202	$5	15cSA	4-15-37	.10	4⅝	2⅞	3¼	2
5	3½	200	3⅜	3⅜	3⅜	New Mexico and Arizona	1,000,000	$1	1c	12-1-36	.01	6⅝	1⅝	2½	1
5⅜	5	400	4½	4½	4½	New York Transit	100,000	$5	15cSA	10-15-36	.35	6¼	4¼	4⅞	3
10¾	7½	800	10¾	10⅛	10¼	Northern Pipe Line	120,000	$10	35c	1-2-37	.40	9¾	4⅞	8	5¼
9⅝	5½	26,100	6¾	5½	6⅝	Pantepec Oil	1,608,700	N.P.	....	.....	....	10⅛	3¼	4⅜	1¼
13¾	9	3,000	9½	9	9½	Root Petroleum Co.	336,045	$1	25c	11-2-36	.50	19¼	4½	5	1½
6½	4	3,500	4½	4	4¼	Ryan Consolidated	296,931	N.P.	....	.....	....	4¾	1⅞	2½	⅝
48	43⅞	500	44½	43½	44	South Penn Oil	1,200,000	$25	60cQ†	3-29-37	2.60	44	32½	34½	21⅝
7¼	5	500	6½	6¼	6¼	Southern Pipe Line	100,000	$10	20cSA	3-1-37	.25	7⅞	3¼	5	3⅞
42	34	50	34	34	34	South West Penna. Pipe Lines	35,000	$50	50cQ	4-1-37	13.00	60	44	56	44¼
20¾	19⅛	4,900	20¾	20⅛	20¼	Standard Oil of Kentucky	2,604,790	$10	25cQ	3-15-37	1.35	23⅜	17⅛	24	18
13½	11½	500	13⅜	13	13⅜	Standard Oil of Nebraska	188,403	$25	25c	3-29-37	.25	14⅝	11	12	7¾
45	33¼	3,700	43¼	42¼	43	Standard Oil of Ohio	753,740	$25	25cQ	3-15-37	2.00	40	21¾	23⅝	11¼
4⅞	4	12,500	4¾	4½	4⅝	Sunray Oil	1,910,919	$1	5c	4-26-37	.10	5	2⅝	2⅞	⅞
7⅝	6⅛	400	6⅝	6½	6½	Texon Oil & Land	336,028	$2	15cQ	3-31-37	.60	9¾	5⅜	6⅞	5

*Ex-dividend. †Includes extras. ‡Payable in Canadian funds.

Note—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

NEW OR IMPROVED EQUIPMENT

Beam-and-Post Assemblies of Two New Types Introduced

National Supply Co., Toledo, Ohio, has announced addition of two models to its line of beam-and-post assemblies. These are types SH-201 and SH-801. Four sizes now are available to cover the complete range of pumping requirements.

National beam-and-post assemblies represent an economical means of pumping either single or multiple wells through back crank attachments. They are designed for installation on a concrete base and are adapted to reduction gears or stand-

ard rig cranks and crankshaft. Any pumping reduction gear may be used, although National reduction gears especially applicable are available.

The type SH-801 has a rated polished-rod stroke of 72 inches and an A.P.I. rated load capacity of walking-beam of 22,700 pounds. It is of the long-beam working center design. This type makes possible the use of a single-bearing beam hanger of great simplicity and durability. In addition it may be installed without interfering with the derrick or cellar, as the beam is long enough to clear the derrick floor.

The type SH-201 represents the smallest size of the line. It has a rated polished-rod stroke of 37½ inches and an A.P.I. rated load capacity of walking-beam of 9,000 pounds. It differs from the three larger sizes in having an extended beam to receive beam counterweights.

Here and There With Men Who Manufacture Equipment

Gordon Leaf, of the Byron Jackson Co. sales force, has been stationed at Odessa, Tex., to cover West Texas for BJ oil tools.

Foster Wheeler Corp. has appointed Howard B. Hall regional director in charge of its Cleveland, Cincinnati and Pittsburgh territories. His headquarters are in the Cleveland office. For the last eight years Mr. Hall had been director of the industrial division of Murray & Flood, consulting engineers.

S. S. (Pete) Parker, formerly vice president and general manager of Hydril Co., in Houston, Tex., has been put in charge of sales and service for National Tank Co., covering the territory from Louisiana to New Mexico. His headquarters will be in Dallas, Tex.

R. J. Howison, western sales manager for Whitney Chain & Manufacturing Co., Hartford, Conn., is now located at the Chicago office, 1500 Southwestern Avenue, and will handle sales in the Mid-Continent from there.

Pennsylvania Pump & Compressor Co., Easton, Pa., has announced appointment of the following district representatives: McVoy-Hausman Co., 2019 Sixth Avenue, North Birmingham, Ala.; John A. Dodd, 101 Marietta Building, Atlanta, Ga.; and Ryan Sales Corp., 160 Second Avenue, North Nashville, Tenn.

Shand & Jurs Co., Berkeley, Calif., has appointed Ralph F. Ley manager of its eastern division, with headquarters in the New York office, 295 Madison Avenue. Robert Blake has been appointed assistant manager. A branch office has been opened in Houston, Tex., with Joseph Z. Hertzler in charge.

Lincoln Electric Co., Cleveland, Ohio, has appointed John S. Humble arc-welding consultant for the Boston, Mass., office, 10 High Street. J. E. Raney is in charge of the office.

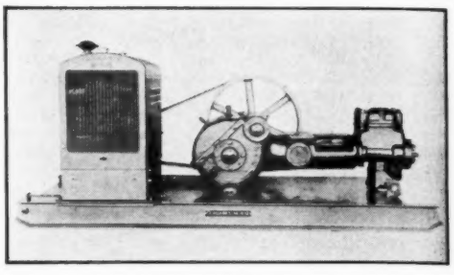
R. L. Armitage has joined Westcott & Greis, Inc., specializing in sales of the new style 65 Dresser fittings for low-pressure piping connections up to 2 inches in diameter. He will work out of the Tulsa office.

Duraloy Buys Foundry Plant

The Duraloy Co., which recently lost its place in New Cumberland, W. Va., by fire, has purchased a large part of the foundry owned by the United States Pipe & Foundry Co. in Scottdale, Pa. This plant includes molding and casting facilities, well-equipped machine and pattern shops, storeroom, testing laboratory, change room and offices. The fire at the old plant did not materially damage the electric furnaces, centrifugal casting machines and some of the other equipment. All of this was moved to Scottdale and by March 25 the company was able to operate on a full schedule basis, producing chrome-iron, chrome-nickel and nickel-chrome castings, forgings and other shapes and parts.

F-M Develops Line of Pumping Units for Use in Oil Field

A new line of pumping units for oil-field service announced by Fairbanks, Morse & Co. consists of an F-M simplex or duplex self-oiling power pump mounted on a steel base with either an F-M multicylinder power unit, F-M model 36 diesel or F-M "Z" engine. Six-inch-stroke pumps, with interchangeable cylinders ranging from 2½- to 4-inch, are driven through Flex-Mor V-belts by F-M 6-cylinder gas, gasoline or combination gas and gasoline power units. These pumping units have



capacities of 33 to 133 bbls. an hour with pressures from 270 to 500 pounds.

Four-inch-stroke simplex and 4- to 10-inch-stroke duplex pumps are available with gas or gasoline multicylinder power units, 4-cycle diesels or "Z" gasoline, kerosene or natural gas engines, offering a wide range of pump sizes with various prime movers.

The sturdy bases, fabricated from steel I beams and plates, facilitate moving and contribute to better operation through protecting the equipment from dirt.

STEAM END OF SLUSHPUMP TURNED UPSIDE DOWN

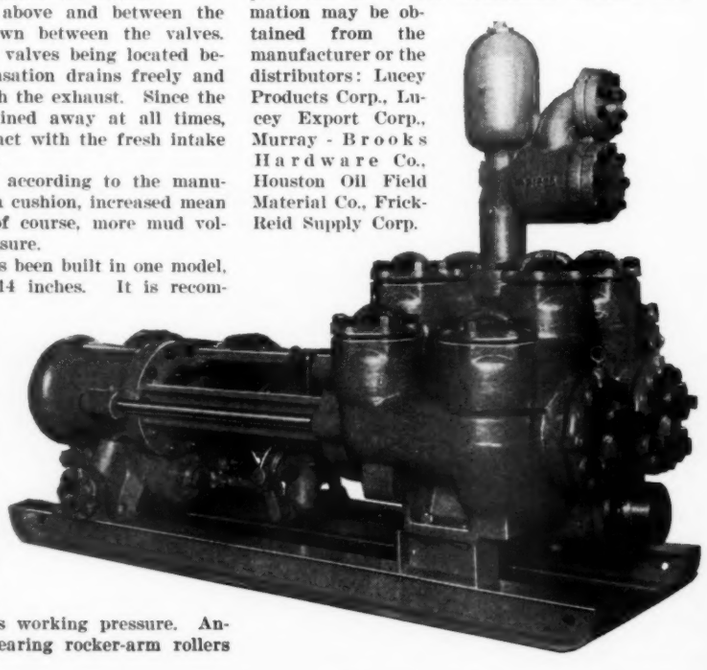
The Wheland Co., Chattanooga, Tenn., presents a new Wheland-Lucey steam slush pump in which the steam end literally has been turned upside down with the valves below the cylinders, and rocker mechanism underneath the cradle.

Intake steam enters above and between the cylinders and passes down between the valves. Both steam and exhaust valves being located below the cylinders, condensation drains freely and immediately away through the exhaust. Since the cooled condensate is drained away at all times, it does not come in contact with the fresh intake steam and tend to cool it.

Advantages resulting, according to the manufacturer, are better steam cushion, increased mean effective pressure and, of course, more mud volume and higher mud pressure.

Thus far the pump has been built in one model, type H-11000, 14 x 7¼ x 14 inches. It is recommended for high-pressure deep drilling, where 4½-inch and smaller drillpipe is used.

The water-cylinder is cast steel, with large clearance through the valve-seats, and is capable of handling large fluid volume. It is interchangeable with that of the company's type HP-11000, 7¼ x 14-inch power pump. Tested to 3,000 pounds, it is recommended for 2,000 pounds working pressure. Another feature is roller-bearing rocker-arm rollers equipped for pressure-gun lubrication. A toboggan-type skid is furnished with heavy boiler plate welded on the entire length of the skids. This insures easy skidding on soft ground and provides protection for rocker mechanism. Detailed information may be obtained from the manufacturer or the distributors: Lucey Products Corp., Lucey Export Corp., Murray - Brooks Hardware Co., Houston Oil Field Material Co., Frick-Reid Supply Corp.



Eaton Is Mechanical Engineer for American Steel Derrick

John F. Eaton, formerly with Jarecki Manufacturing Co. in sales and development work, has resigned to become mechanical engineer for American Steel Derrick Co. His headquarters will continue to be in Tulsa.

JOHN F. EATON

Mr. Eaton owns patents on several new oil-field specialties and on improvements in existing equipment. With C. A. Mathey, owner of C. A. Mathey Machine Works, he organized Engineering Co., Inc., of Tulsa, which has been successful in the manufacture and sale of certain oil-field specialties. He is a member of American Society of Mechanical Engineers, American Petroleum Institute and a founder of the Engineers Club of Tulsa. He is a graduate in mechanical engineering of Princeton University.

Bulletins, Booklets and Other Literature for the Trade

The current number of Heat Engineering, published by Foster Wheeler Corp., 165 Broadway, New York, contains articles of practical value to the oil refiner.

Two folders are offered by the Automatic Nut Co., Lebanon, Pa. One describes and illustrates Anco-nuts, which automatically lock themselves; the other, the structural rib bolt used with the Anco-nut.

"Stabilog Controllers for Liquid Level" is a 24-page bulletin discussing instruments and methods for automatic control of liquid level in continuous flow processes, issued by Foxboro Co., Foxboro, Mass.

Coffing hoists and their uses in the oil field are described and pictured in a bulletin mailed on request by Coffing Hoist Co., Danville, Ill.

Pittsburgh Equitable Meter Co., 400 North Lexington Avenue, Pittsburgh, Pa., has published a bulletin describing Emco field regulators, designed for such applications as serving a single consumer or a group of small consumers directly from a well or transmission line carrying extremely high pressure.

Pleasure which always attends reading the Lufkin Line, publication of Lufkin Foundry & Machine Co., Lufkin, Tex., is renewed by the current number. Among beautifully illustrated articles are one on "The Charm of Death Valley" and one on "Lucerne Under Lucky Star." Lufkin installations of pumping units in the Rodessa and Talco fields are pictured.

Refinery installations are among those described and illustrated in a 16-page booklet prepared for distribution by Electric Controller & Manufacturing Co., Cleveland, Ohio, and devoted to steel-clad motor control.

Nonindicating temperature and pressure controllers are the subject of a 32-page catalog mailed on request by C. J. Tagliabue Manufacturing Co., Park and Nostrand Avenues, Brooklyn, N. Y.

Heavier loads and high speeds in oil production lead to use of Moly steels, according to an illustrated article in the current issue of the Moly Matrix, published by Climax Molybdenum Co., 500 Fifth Avenue, New York.

John Waldron Corp., New Brunswick, N. J., manufacturer of the Francke flexible coupling, has prepared a two-color bulletin No. 51 which illustrates and describes the new Waldron cross type flexible coupling for light-duty motor drives where misalignment of connected shafts is unavoidable.

Court Upholds C. K. Williams

In the suit of C. K. Williams & Co. vs. National Pigments & Chemical Co., findings and conclusions filed by Judge George H. Moore in the U. S. District Court in St. Louis, Mo., uphold the plaintiff. The suit involved a dispute over the terms of two patent license contracts granting C. K. Williams & Co. and its subsidiaries, Geo. S. Mepham Corp. and C. K. Williams & Co. of California, Ltd., the right to sell iron oxide and bentonite for the control of mud fluids in the drilling of oil and gas wells under the Stroud and Harth patents. National Pigments & Chemical Co., which owned the patents, declared the licenses forfeited and attempted to cancel the contracts, and C. K. Williams & Co. brought suit under the declaratory judgments act to have the contracts judicially interpreted. The district court found for C. K. Williams & Co. on all points and declared the contracts to be valid and subsisting licenses and that the attempt to cancel the contracts was improper.

Grove Regulator Gets New Factory

Growth in orders from the oil field has impelled the Grove Regulator Co. to move to a larger plant and to install new manufacturing equipment, according to M. H. Grove, president. The dome pressure of the Grove regulator is set to fit any working condition, and it can be moved from one job to another, with no other adjustments except changing the dome pressure, which is a field operation. The new headquarters, including the general sales office and manufacturing facilities, are at 1729 Poplar Street, Oakland, Calif.

Mr. Kelley Vice President and Sales Manager of Shaffer

Ben F. Kelley has become part owner, vice president and sales manager of Shaffer Specialty Co., Tulsa. Mr. Kelley went to Tulsa in 1909,

BEN F. KELLEY

working in the production department of Gypsy Oil Co. In 1911 he joined Continental Supply Co., severing this connection in 1920 to become western sales representative of Titusville Iron Works, which position he held for 17 years. Shaffer Specialty Co. manufactures portable rotary and cable-tool drilling units, rotary hose couplings and oil-field specialties.

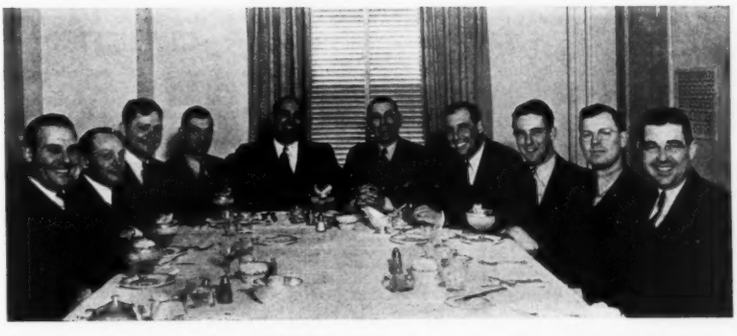
Vinson to Distribute Tube Turns

Vinson Supply Co., 210 North Boston Avenue, Tulsa, has been appointed exclusive distributor for Tube Turns, Inc., in Oklahoma and Kansas. B. W. Vinson is president of the company.

American Opens Shop in New Iberia

A new shop and warehouse has been opened by American Machine & Iron Works Co. in New Iberia, La. American's main office and factory are in Oklahoma City, Okla. Its Gulf Coast headquarters are in Houston, Tex., with branches in Kilgore, Tex., and Seminole and Fittstown, Okla.

BYRON JACKSON MEN MEET TO DISCUSS SALES PLANS



To discuss sales plans in the Mid-Continent and Gulf Coast areas, the oil tool division of Byron Jackson Co., recently held a sales meeting and banquet in Fort Worth, Tex. In the picture are Herb E. Grau, chief engineer, visiting from Los Angeles, Calif.; Marshall Moore; D. O. Pugh; R. T. Todd; Frank Champion, general sales manager; C. F. Vincent, Mid-Continent manager; B. A. Hilliard; Gordon Leaf; H. M. Turnage, and E. W. Stuart.

Oil Man's Calendar

April

7-8—Boston, Mass., Oil Men's Association of New England, thirteenth annual convention, Copley Plaza Hotel.

7-9—Birmingham, Ala., American Institute of Mining and Metallurgical Engineers, Open Hearth Conference.

8-10—Shreveport, La., Petroleum Industry Electrical Association.

13—Los Angeles, Calif., American Petroleum Institute, Division of Production, Pacific Coast district, Biltmore Hotel.

15-16—Cleveland, Ohio, 34th semiannual meeting National Petroleum Association, Cleveland Hotel.

26-28—Hot Springs, Ark., Western Petroleum Refiners Association, annual meeting, Arlington Hotel.

May

4-9—White Sulphur Springs, W. Va., Society of Automotive Engineers, summer meeting, Greenbrier Hotel.

6-7—Columbus, Ohio, American Petroleum Institute, Division of Production, Eastern district, Deshler-Wallick Hotel.

10—Kansas City, Mo., Spring meeting Natural Gas Department, American Gas Association.

19-21—Tulsa, Natural Gasoline Association of America, annual meeting, Hotel Tulsa.

23-27—Pittsburgh, Pa., National Association of Purchasing Agents (Oil Company Buyers' Group) annual convention, William Penn Hotel.

June

1-3—Colorado Springs, Colo., American Petroleum Institute, mid-year meeting, Broadmoor Hotel.

7—Kansas City, Mo., Oil Field, Gas Well-Refinery Workers of America.

10-12—Pennsylvania Grade Crude Oil Association, annual meeting, on Great Lakes S.S. "Seeandbee," sailing from Buffalo, N. Y.

11—Santa Fe, N. M., Interstate Oil Compact Commission meeting.

14-19—Paris, France, Second World Petroleum Congress, during International Exposition.

25-26—Dallas, Tex., National Oil Scouts Association, annual meeting, Baker Hotel.

June—July

28-July 2—New York, American Society for Testing Materials, fortieth annual meeting, Waldorf-Astoria Hotel, together with fourth A.S.T.M. exhibit of testing apparatus and related equipment.

September

(?)—San Francisco, Calif., North American Gasoline Tax Conference.

27—Cleveland, Ohio, American Gas Association, nineteenth annual convention.

October

11-16—Houston, Tex., Oil-World Exposition.

26—New York, Oil Trades Association of New York.

29-30—Dallas, Tex., Mid-Continent Oil and Gas Association of Texas, annual meeting.

November

9-12—Chicago, American Petroleum Institute, eighteenth annual meeting, Stevens Hotel.

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GRADUATE CHEMIST, single, 21, 1 yr. experience in refinery laboratory, seeks better position in Mid-Continent Region or abroad. Excellent scholastic record. References. Address Box H-683, The Oil and Gas Journal, Tulsa, Okla.

Experienced surveyor: 16 years in oil fields; city, pipe lines, land lines. Address Box H-700, The Oil and Gas Journal, Tulsa, Oklahoma.

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THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

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250,000 FT. 2" LAP WELD
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UNSURPASSED for smooth, trouble-free operation under any condition. Has well load capacity of 21,400 lbs. with Man-Ten beam. 53 horsepower capacity. Stroke ranges from 34 to 74 inches. It's made to order for the extra tough pumping jobs.

The PARKERSBURG RIG & REEL CO., PARKERSBURG, W. VA.

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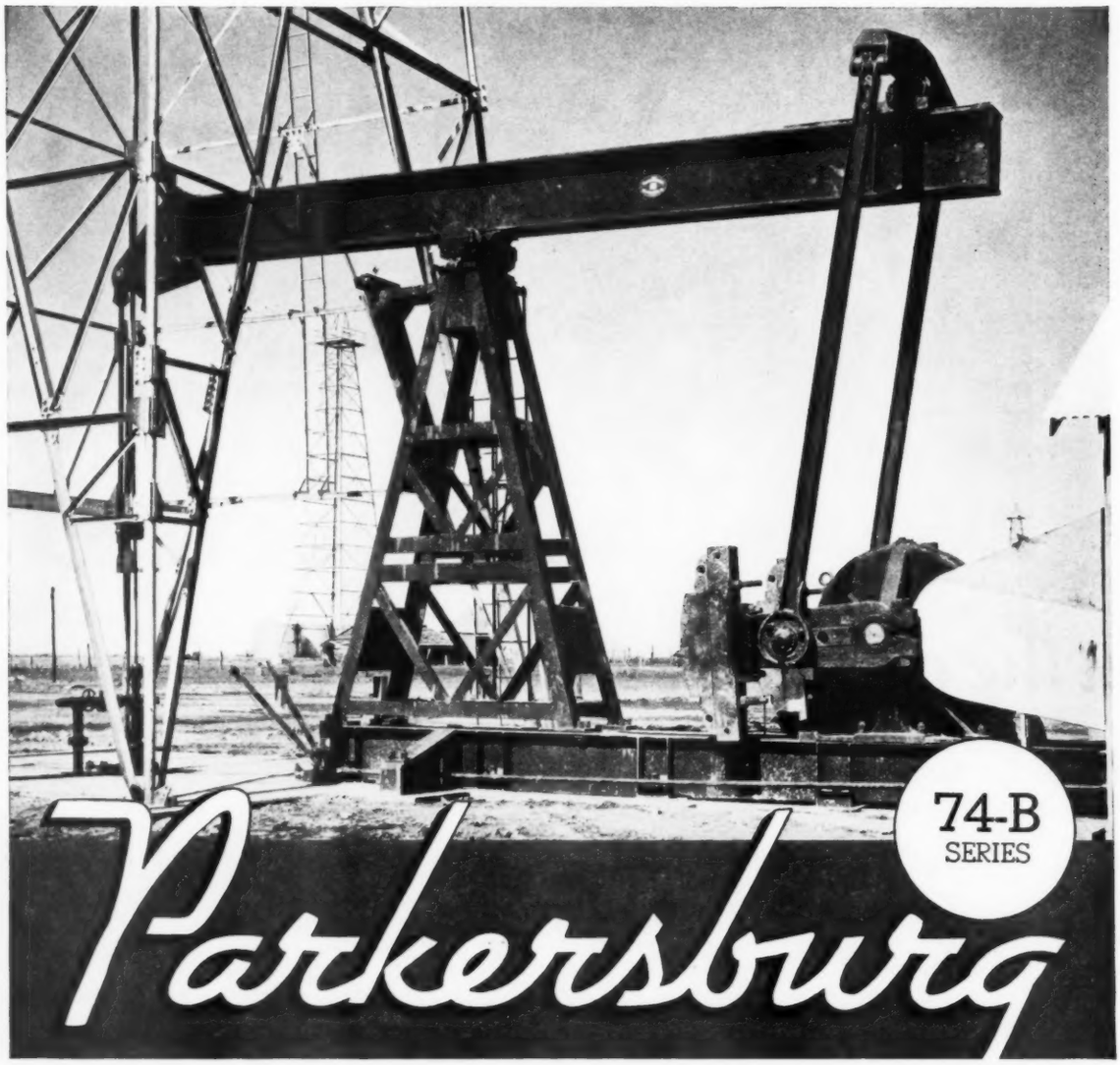

The Oil and Gas Journal, issued weekly by The Petroleum Publishing Company, 114-116 West Second Street, Tulsa, Oklahoma. Subscription prices: Domestic, $6.00 a year; foreign, $7.00 a year. Entered as second-class mail matter December 15, 1911, at the post office at Tulsa, Oklahoma, under the Act of March 3, 1879.

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DUTCH BOY RED-LEAD

WITH thousands of years' experience behind him, Rust ranks as the world's leading expert at destruction. *He knows his job.* But his best efforts come to nothing . . . when the protective paint is Dutch Boy Red-Lead.

This dependable guardian of metal surfaces provides a solid, tough, tenacious coating that not only keeps out moisture but also resists the destructive action of other common causes of corrosion, such as gases, smoke and salt water.

Dutch Boy Red-Lead comes in both paste and liquid form, the latter including a quick-drying type for use when allowable drying time is short. The pigment in every case is pure red-lead that contains more than 97% Pb_3O_4, thus assuring easier application, higher spreading rate, and a uniform film of greater density.

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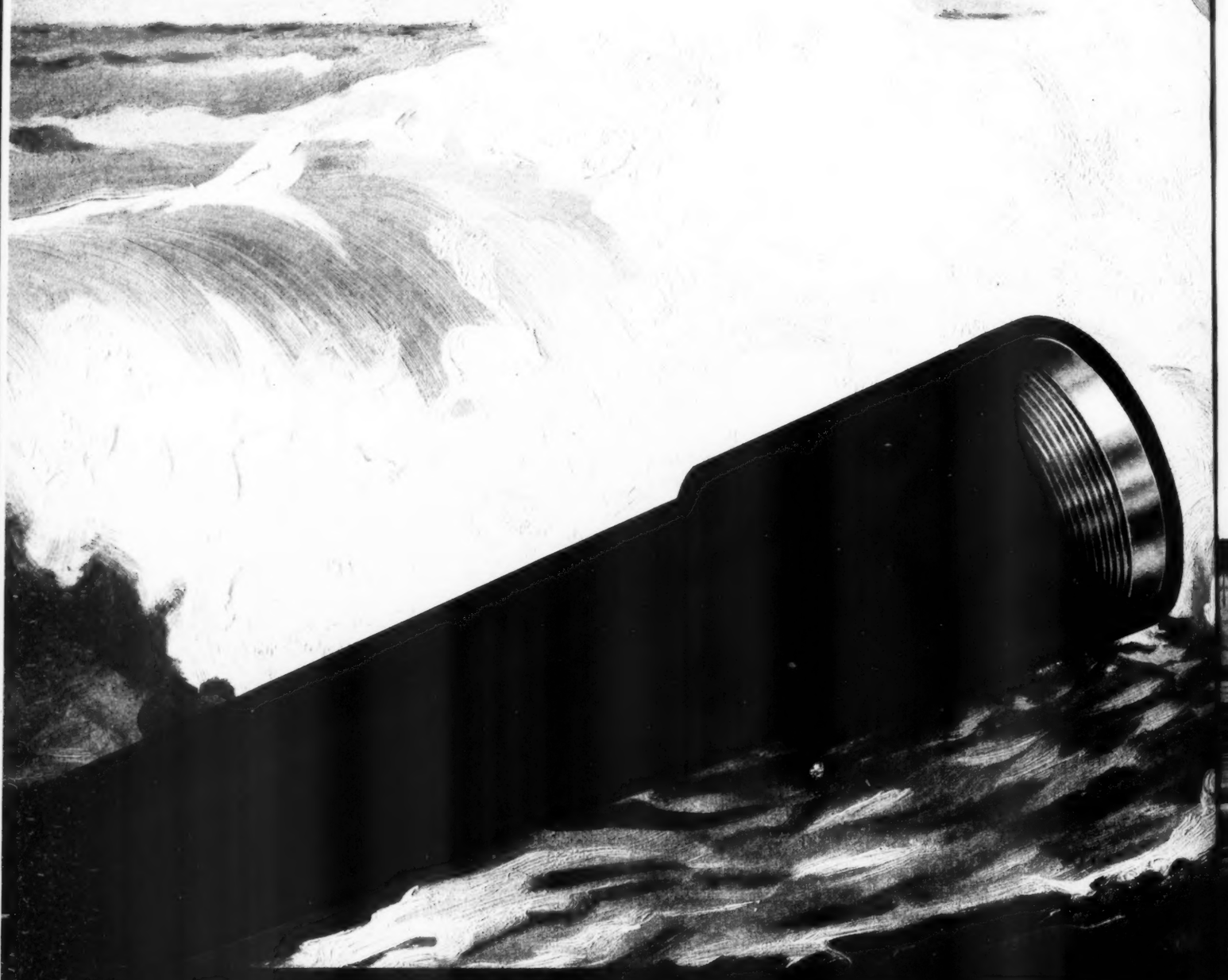

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Making steel work for you as it never did before in—

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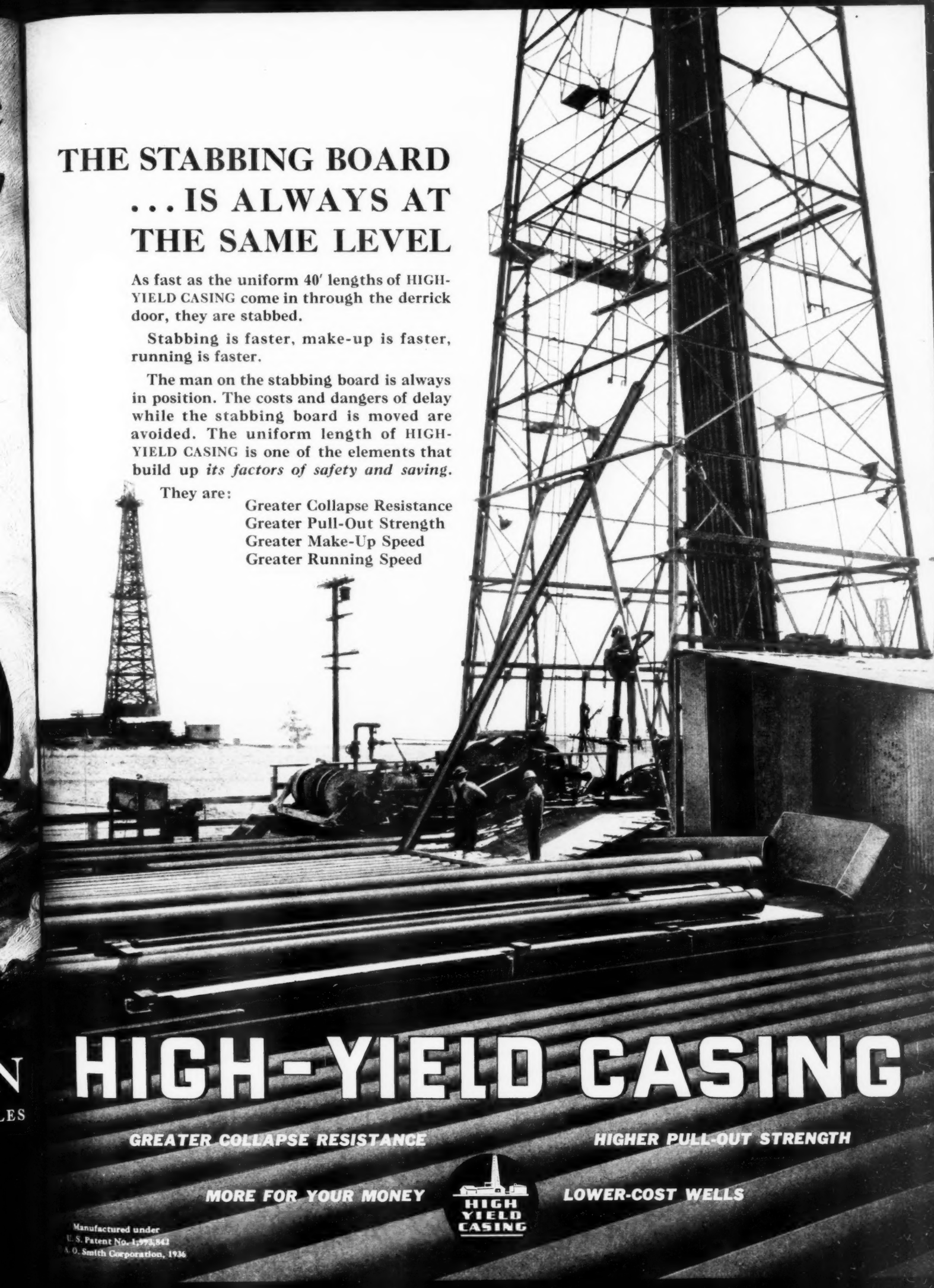
SMITH LINE PIPE—SMITH PRESSURE VESSELS



THE STABBING BOARD ... IS ALWAYS AT THE SAME LEVEL

As fast as the uniform 40′ lengths of HIGH-YIELD CASING come in through the derrick door, they are stabbed.

Stabbing is faster, make-up is faster, running is faster.

The man on the stabbing board is always in position. The costs and dangers of delay while the stabbing board is moved are avoided. The uniform length of HIGH-YIELD CASING is one of the elements that build up *its factors of safety and saving.*

They are:

Greater Collapse Resistance
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Greater Make-Up Speed
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HIGHER PULL-OUT STRENGTH

MORE FOR YOUR MONEY

HIGH YIELD CASING

LOWER-COST WELLS

Manufactured under
U. S. Patent No. 1,993,842
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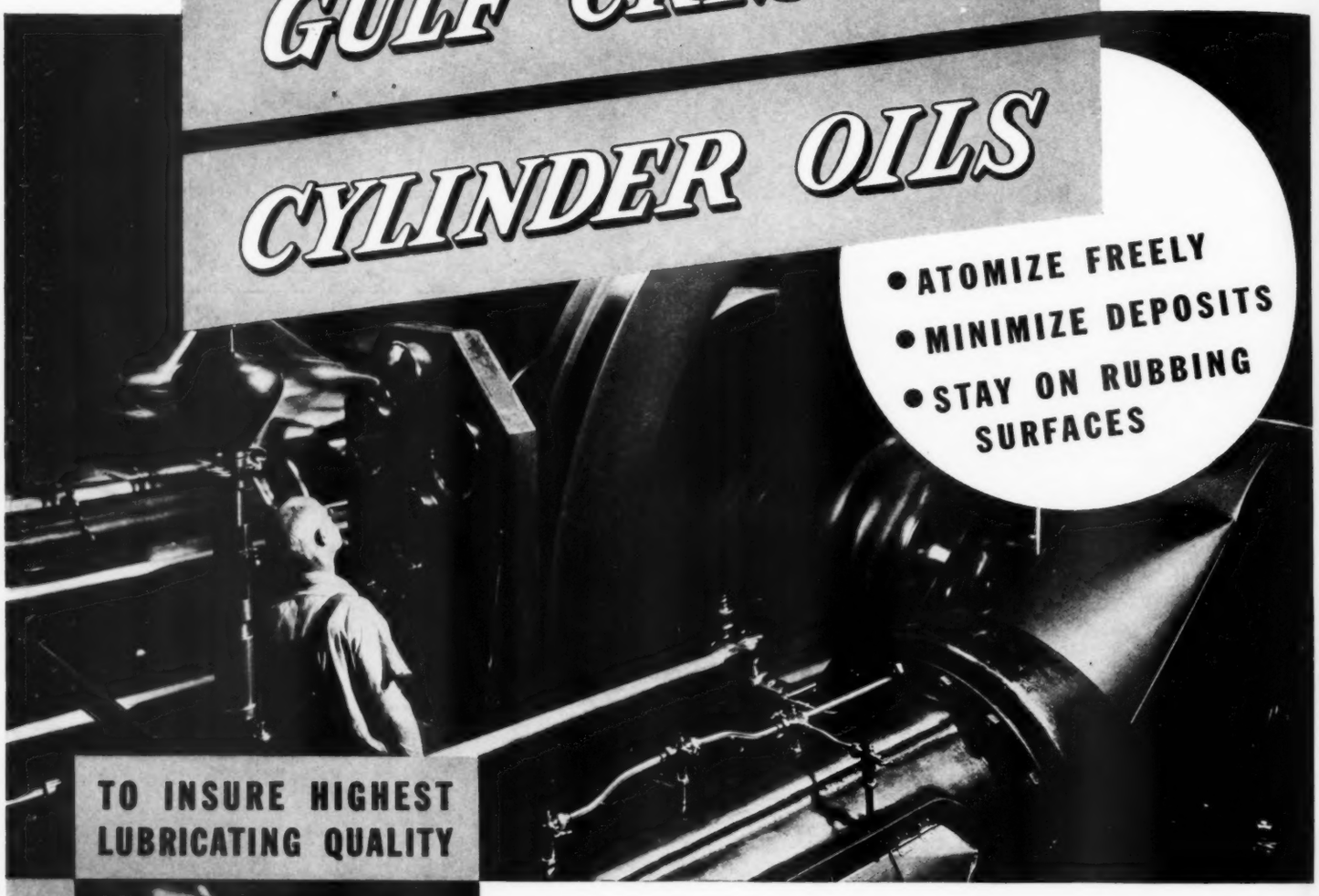
GULF CRYSTAL CYLINDER OILS



- ATOMIZE FREELY
- MINIMIZE DEPOSITS
- STAY ON RUBBING SURFACES

TO INSURE HIGHEST LUBRICATING QUALITY

MANY steam engine operators — particularly those who demand ready separation of the lubricating oil from the condensate — have found Gulf Crystal Cylinder Oil the most efficient steam cylinder lubricant they can use.

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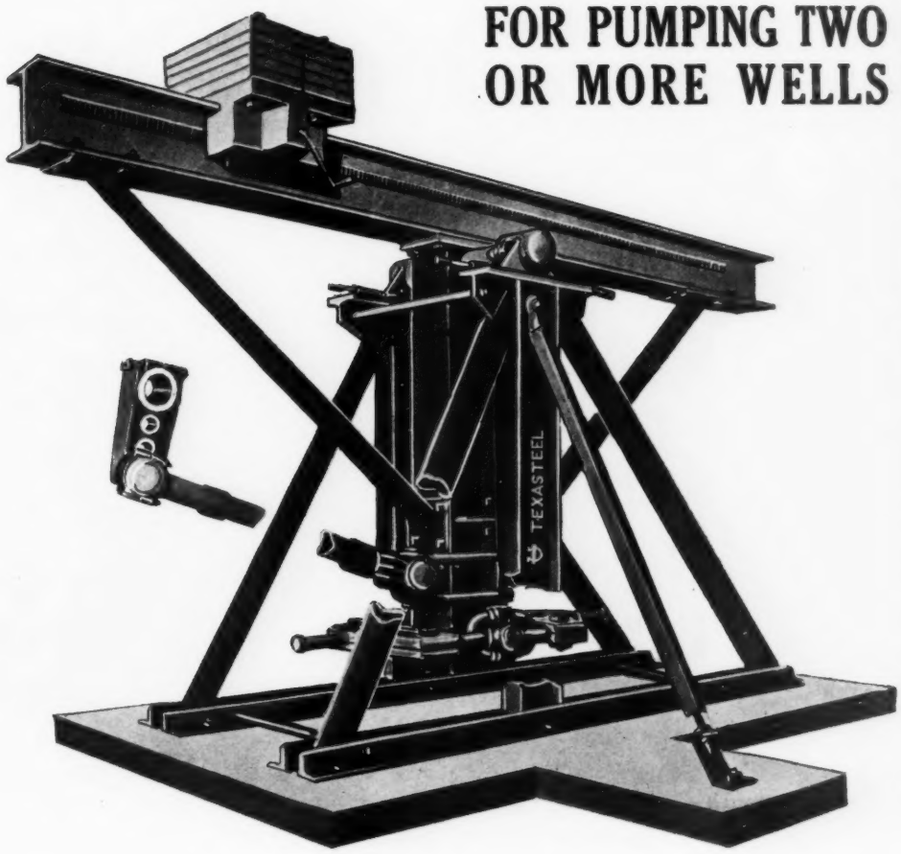
GENERAL OFFICES, GULF BUILDING, PITTSBURGH, PA.

The New IMPROVED
Backside Assembly

FOR PUMPING TWO OR MORE WELLS



With these SPECIAL FEATURES

1 BEARINGS

The bearings in the new Assembly are all special Texasteel bearings—the main or saddle, and the rod line bearings are similar to those used exclusively on Texasteel Jacks with a choice of three types:

1. Bronze Bushed Alemite fitted with stuffing box type packing gland.
2. The same as No. 1 but not Bronze Bushed.
3. Has machined semi-steel bearings with a packed set collar packing gland.

2 CONNECTIONS

The Pitman connection is a variation of the universal joint principle. It eliminates all unnecessary deflection strains, and assures perfect alignment. The wrist pin connection is based on the ball joint principle and is equipped with roller bearings.

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In pumping more than two wells the beam can be equipped with a long stroke, straight lift cable head. The counter balance weight can also be regulated very easily by a few turns of the crank.

4 CONSTRUCTION

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24 HOUR SERVICE PLANT TO LEASE

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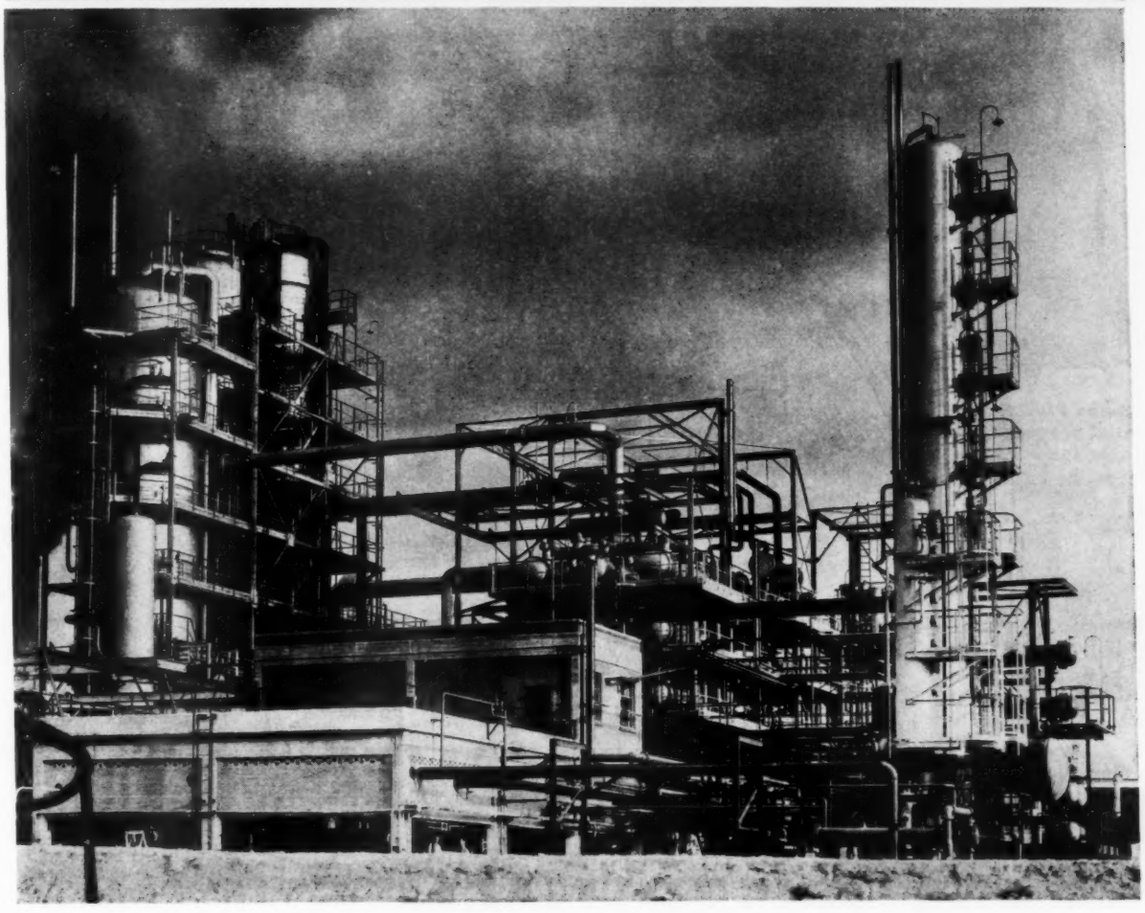
ACCO

PAGE *Welding* WIRE

Flexibility Of Operation



...a basic principle of Kellogg design

The diversity and higher quality of products which the modern refinery must produce today in order to compete successfully make it imperative that the unit design provide the maximum flexibility of operation.

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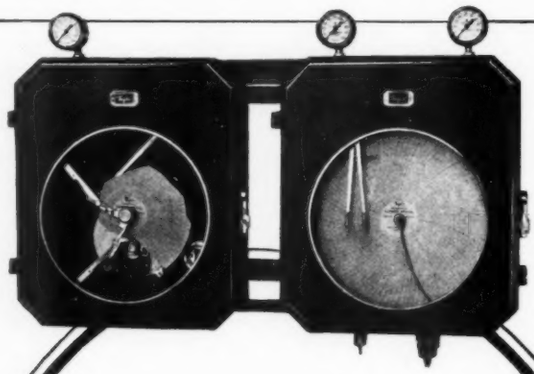
For accurate measurement



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1-, 2-, and 3-pen Flow Recorder **for differential pressure, static pressure, or temperature**

Integrating **Flow Recorder. Pressure-compensated or uncompensated type**

Taylor

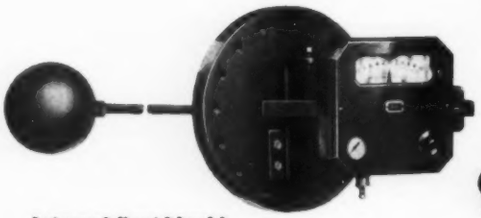
FLOW AND LIQUID LEVEL INSTRUMENTS

Indicating **Flow and Liquid Level** ***Controller***

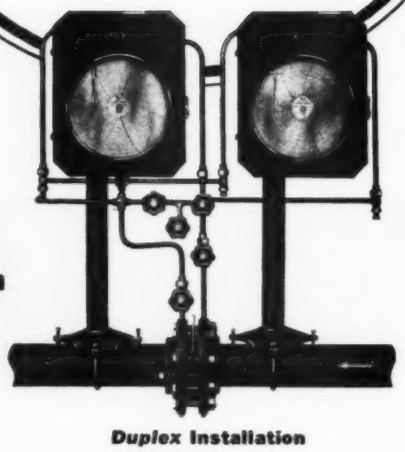
Flow and Liquid Level ***Indicator***

Recording Flow **and Liquid Level** ***Controller***

Static pressure **Liquid Level** ***Recorder***



Internal-float **Liquid Level** ***Controller***



Duplex **Installation**

External-float **Liquid Level** ***Controller***

and close control of flow and liquid level

RELY ON TAYLOR INSTRUMENTS FOR PRACTICALLY ALL CLASSES OF SERVICE

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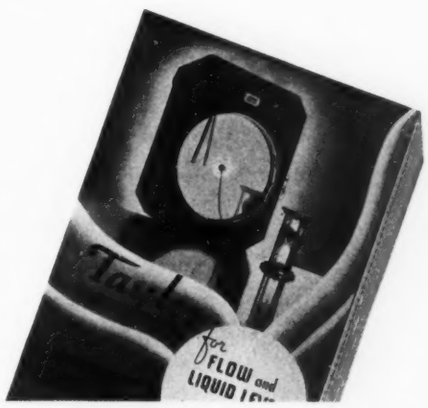

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CRUDE OIL ASSOCIATION
PERMIT NUMBER .....
Made from the highest grade crude oil in the world

This Is One of the Larger Electrically Operated Pumping Stations!

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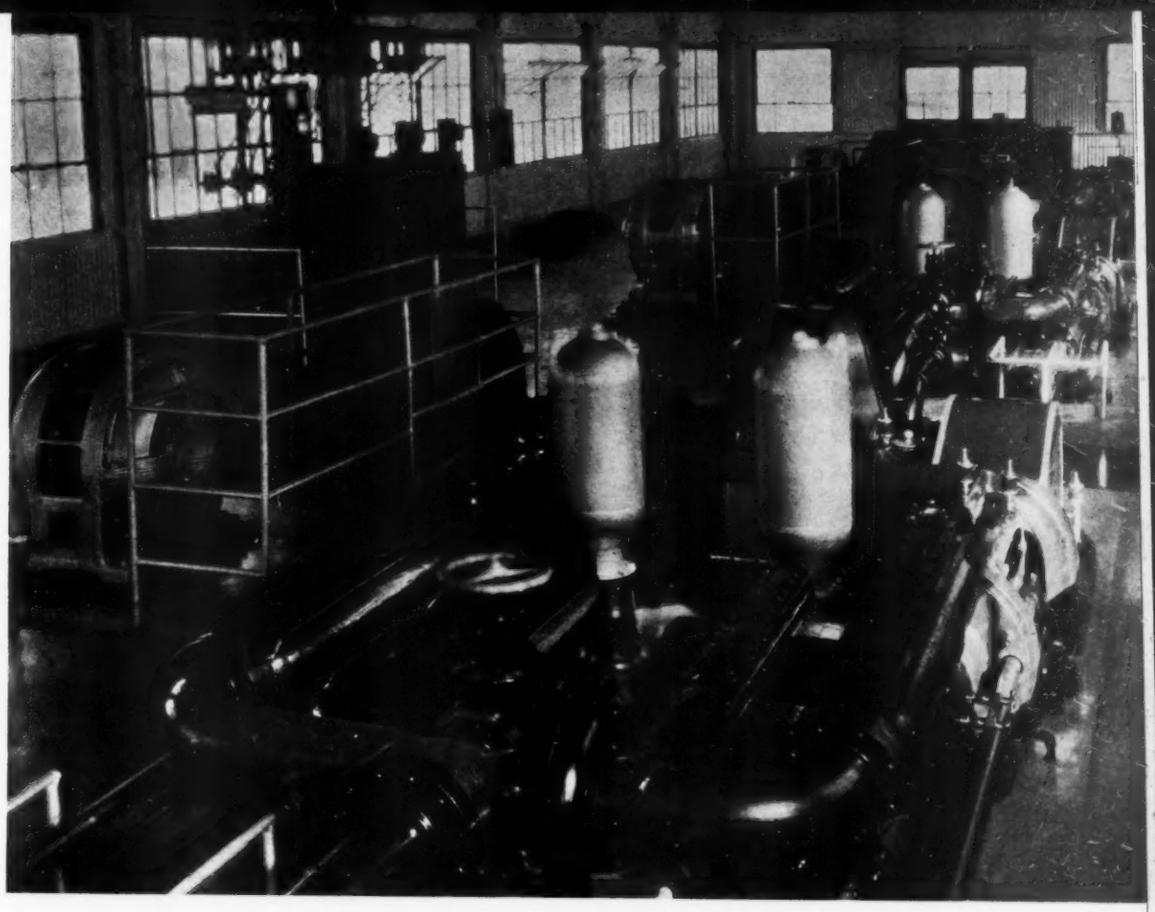

Plenty of Cheap Electric Power for Rodessa!

Plenty of cheap electric power, available at once, influenced the Magnolia Pipe Line Company to install electric drive in their 500 horsepower main-line station at Rodessa.

The dependability, flexibility, and low first cost of electric main-line stations are well known to oil companies. The advantages of electric drive are frequently of sufficient value to offset entirely the cost of purchased electric power.

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If you require power in Rodessa, on either the Texas or Louisiana sides, or in the East Texas field, our engineers would like to talk to you. They may be able to save you some money, and get us some additional business. Address inquiries to Power Sales Department, Shreveport, Louisiana.

SOUTHWESTERN GAS & ELECTRIC CO.

this Drilling Crew says

Williamsport "Form-Set" *is a better rotary line!*

These boys do a lot of drilling and they've tried a lot of lines. When they say a line is good, you can rely on it. And they claim Williamsport "Form-Set" wire line, like you see in the picture, "stands the gaff on rotary drilling better than any other line . . . "

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Rugged, tough, yet easier to handle, "Form-Set" belongs on your rotary job. Priced the same as all *pre*formed line, it often figures less cost by doing more work. For best results, good drillers use Purple Strand "Form-Set".

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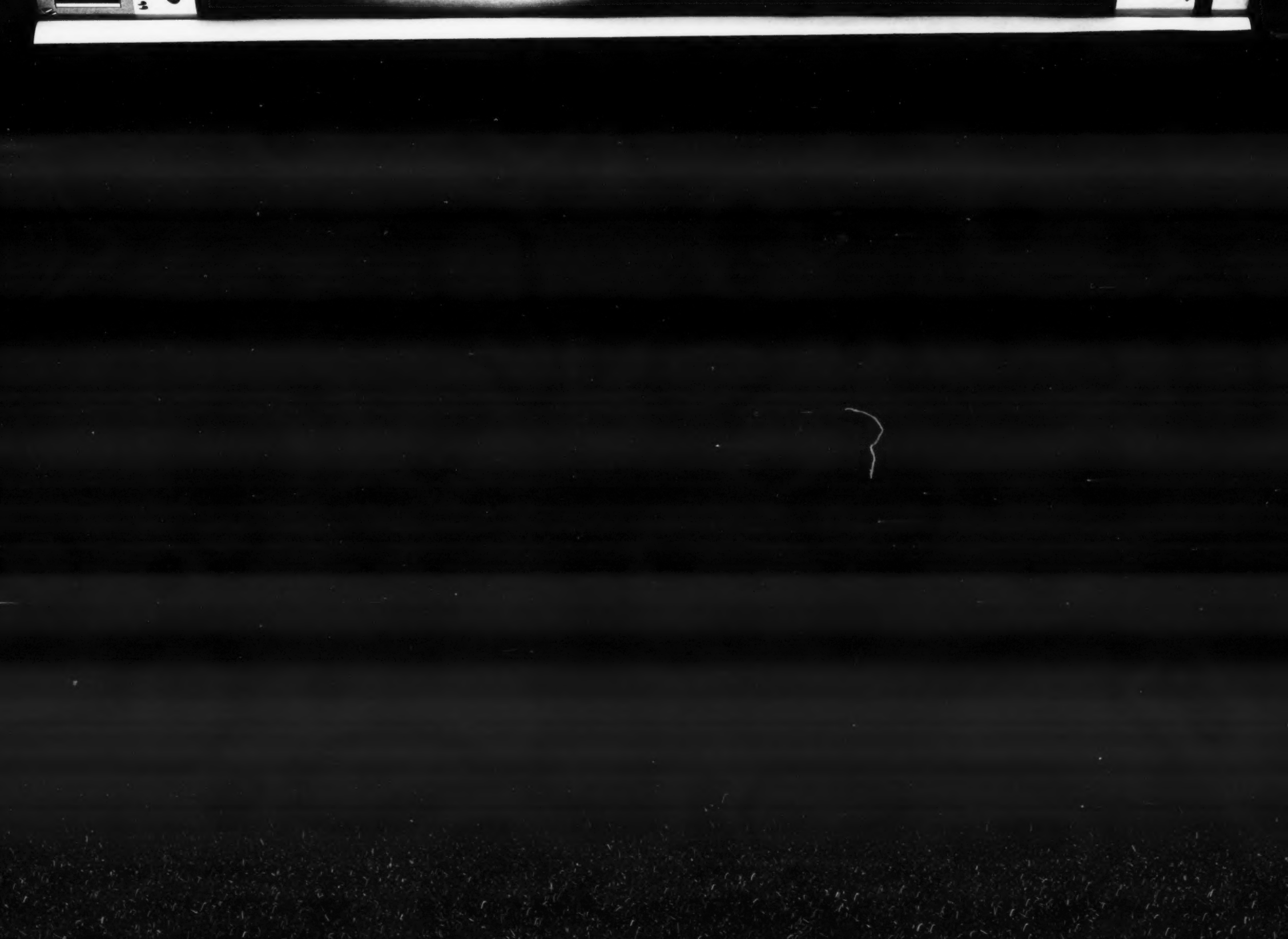
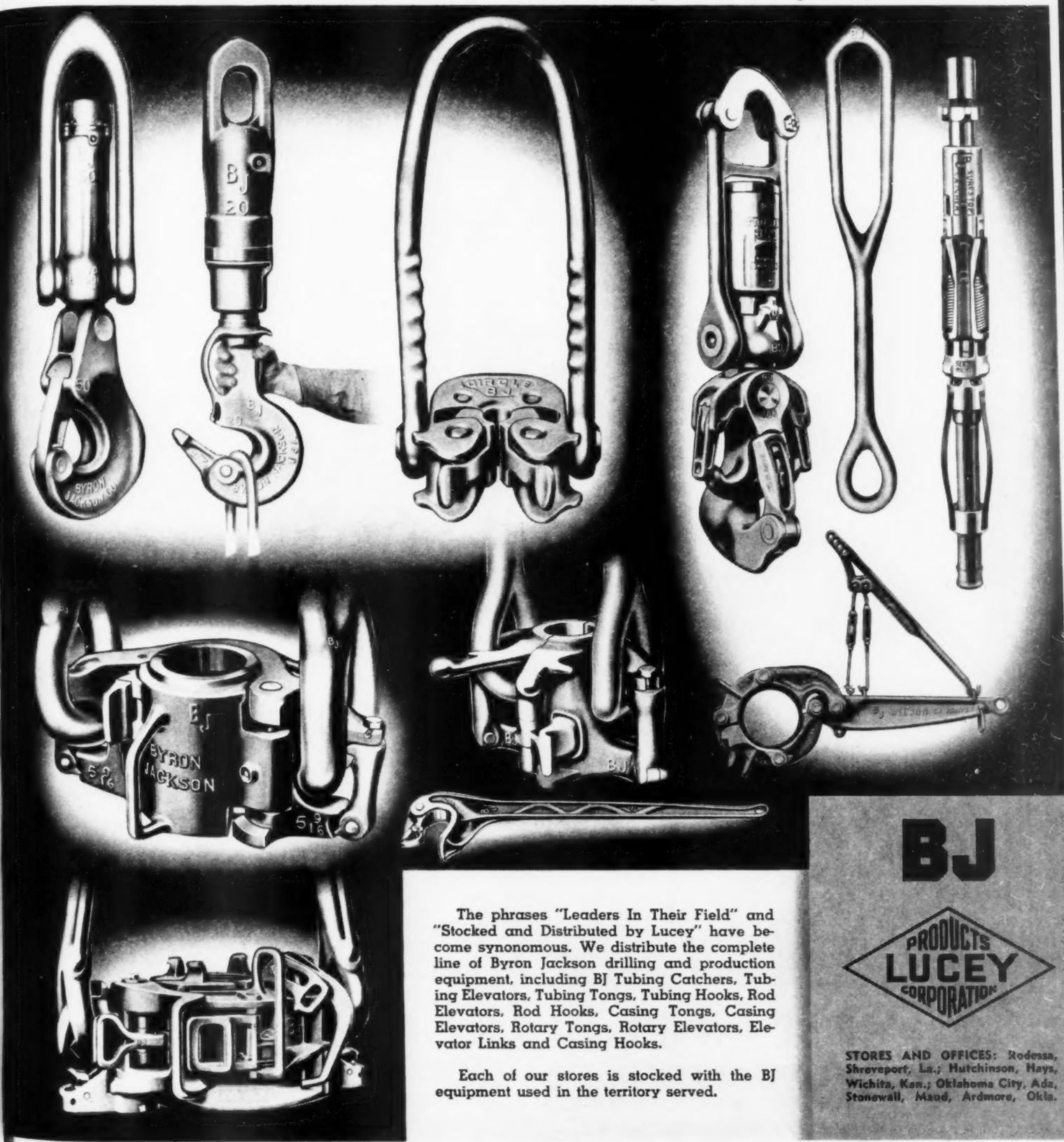


LEADERS IN THEIR FIELD

"Stocked and Distributed by Lucey"-of Course



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OFFERS A PROTECTING LICENSE *to* REFINERS

The very fact that leading refiners of lube oils have adopted and continue to use Super-Filtrol, is positive proof of the part it is playing in the scientific development of production methods. This activated bleaching clay makes possible a wider flexibility in processing and aids greatly in producing a superlative product.

The Filtrol Corporation guards carefully the rights of every Petroleum Refiner who purchases and uses Super-Filtrol in connection with Clarification, Neutralization and Decolorization of petroleum oil. Every package carries the genuine "Super-Filtrol" label and the marking on the package carries the following protective message:

["The purchaser of this clay is licensed to employ it in the clarification, decolorization and neutralization of petroleum oil under the patents of Contact Filtration Company."]

Those interested are invited to make inquiry regarding their particular requirements.

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